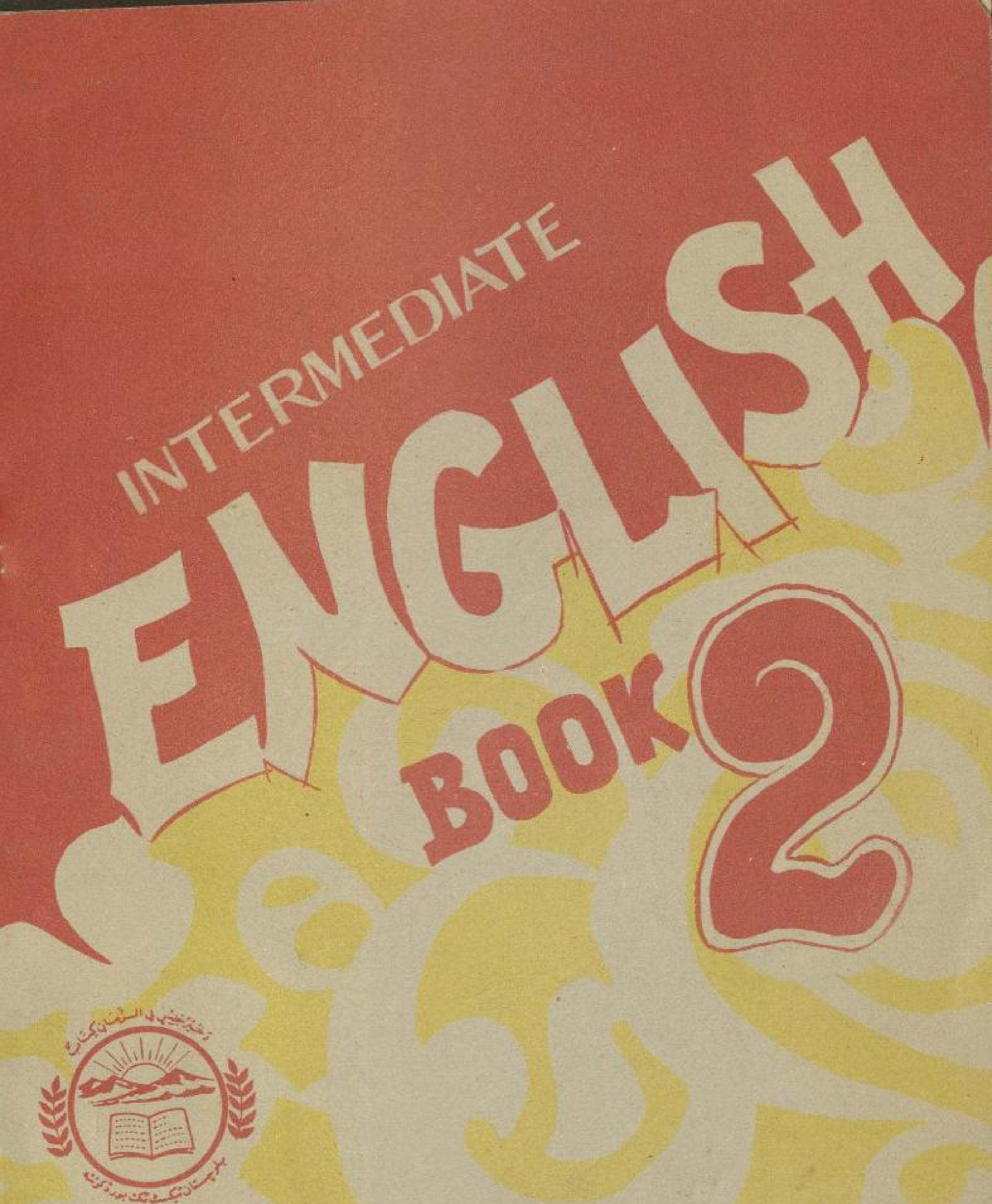
INTERMEDIATE ENGLISH

BOOK 2



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(Modern Proses and Heroes)

For
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PREFACE

The object of this anthology is to provide suitable reading material for the study of English language for the Intermediate students. To this end an attempt has been made to compile it from modern prose published in recent times. The student is expected to learn to use English as it is spoken and written by Englishmen today and, for this purpose, a working knowledge of the current idiom is indispensable.

It is hoped that the essays and passages selected would be found to be interesting. Some of the essays reflect school or college life or pertain to problems which confront the students as well as their parents. The students are expected to respond naturally to them and get into their spirit. Others are humorous, informative and stimulating. We would like the students to get out of their shells, to have a look around and know something of the world and its problems, to learn how great men have worked for the betterment of their country and, in fact, for mankind itself.

Among other things that give zest to life are stories of adventure. They tell us how brave men have faced the unknown or are facing today. We are a stay-at-home people for the most part and should know something of the spirit of adventure which has enabled the other peoples to forge ahead.

The notes at the end of each article are sufficient. We have not given long notes and explanations because they encourage laziness and too much dependence on others.

Dr. Mohammad Sadiq

CONTENTS

PART – I

Page

1. THE DYING SUN 1
Sir James Jeans.

2. USING THE SCIENTIFIC METHOD 6
Darrel Barnard & Lon Edwards.

3. WHY BOYS FAIL IN COLLEGE 13
Herbet E. Hawkes.

4. END OF TERM 21
David Daiches.

5. ON DESTROYING BOOKS 26
J. C. Squaire.

6. THE MAN WHO WAS A HOSPITAL 32
Jerome K. Jerome.

7. MY FINANCIAL CAREER 38
Stephen Leacock.

8. CHINA'S WAY TO PROGRESS 44
Galeazzo Santini.

9. HUNGER AND POPULATION EXPLOSION 53
Anna McKenzi.

10. THE JEWEL OF THE WORLD 60
Philip K. Hitti.

PART – II

11. FIRST YEAR AT HARROW 71
Sir Winston S. Churchill.

12. HITCH – HIKING ACROSS THE SAHARA 75
G. F. Lamb.

13. SIR ALEXANDER FLEMING 91
Patrick Pringle.

14. LOUIS PASTEUR 104
Margaret Avery.

15. MUSTAFA KAMAL 118
Wilfrid F. Castle.

PART I

THE DYING SUN

Sir James Jeans

A few stars are known which are hardly bigger than the earth, but most of them are so large that hundreds of thousands of earths could be packed inside each and leave room to spare; here and there we find an immense star large enough to contain millions and millions of earths. And the total number of stars in the universe is probably something like the total number of grains of sand on all the sea-shores of the world. Such is the littleness of our home in space when measured up against the total substance of the universe.

These millions of stars are wandering about in space. A few form groups which journey in company, but most of them travel alone. And they travel through a universe so immense that it is a very, very rare event indeed for one star to come anywhere near to another. For the most part each star makes its voyage in complete loneliness, like a ship on an empty ocean. In a scale model in which the stars are ships, the average ship will be well over a million miles from its nearest neighbour. From this it is easy to understand why a star seldom finds another anywhere near it.

We believe, however, that some two thousand million years ago this rare event took place, and that another star, wandering blindly through space, happened to come near the sun. Just as the sun and moon raise tides on the earth, so this second star must have raised tides on the surface of the sun. But they would be very different from the little tides which the small mass of the moon raises in our oceans; an immense tidal wave must have travelled over the surface of the sun, at last forming a mountain so high that we can hardly imagine it. As the cause of the disturbance came nearer and nearer, the mountain would rise higher and higher. And before the second star began to move away again, its tidal pull had become so powerful that this mountain was torn to pieces and threw off small parts of itself into space. These small pieces have been going round the sun ever since. They are the planets, great and small, of which our earth is one.

The sun and the other stars we see in the sky are all extremely hot – far too hot for life to exist on them. So also no doubt were the pieces of the sun when they were first thrown off. Gradually they became cooler, until now they have very little heat of their own left, their warmth coming almost entirely from the radiation which the sun pours down on them. In course of time one of these cooling pieces gave birth to life. we do not know how, when or why this happened. It started in simple organisms, whose living power consisted chiefly in their being able to reproduce themselves before dying. But from these humble beginnings came a stream of life which, growing ever more and more complex, has in the end produced beings whose lives are largely centred in their feelings and ambitions, their sense of beauty, and the religions in which lie their highest hopes and noblest desires.

Although we cannot speak with any certainty, it seems most likely that the human race came into existence in some such way as this. Standing on our little grain of sand, we try to discover the nature and purpose of the universe which surrounds our home in space and time. Our first feeling is something like fear. We find the universe frightening because of its immense distances which we do not understand, frightening because of the stretches of time so great that we cannot imagine them, making the whole of human history so very small in comparison, frightening because of our extreme loneliness, and because of the littleness of our home in space – a millionth part of a grain of sand out of all the sea-sand in the world. But above all else, we find the universe frightening because we cannot find any sign that life like our own exists anywhere in it except on the earth. Indeed, for the most part, empty space is so cold that all life in it would be frozen. Most of the matter in space is so hot as to make life on it impossible. Life does not seem to have any part in the plan of the universe. which produced our planetary system. Calculation shows that there can be only very few such systems in space. Yet, so far as we can see, life of the kind we know on earth can exist only on planets like the earth. It needs suitable physical conditions for its appearance, the most important of which is a temperature at which substances can exist in a liquid state.

The stars themselves are far too hot for this. We may think of them as a collection of fires scattered through space, providing warmth in surroundings where the temperature is at most some four degrees above absolute zero, that is, about 484 degrees of frost on the Fahrenheit scale. In the immense stretches of space beyond the Milky way, it is colder still. Away from the fires there is this un-imaginable cold of hundreds of degrees of frost; close up to them there is a temperature of thousands of degrees, at which all solids melt, all liquids boil.

Life can exist only in a narrow belt surrounding each of these fires at a certain distance where the temperature is neither too hot nor too cold. Outside these belts life would be frozen; inside it would be burnt up. A rough calculation shows that all such temperature belts, within which life is possible, all added together, make up less than a thousand million millionth part of the whole of space. And even inside them, life must be very rare, for it is extremely unusual for suns to throw off planets as our sun has done. Probably only one star in 100,000 has a planet going round it at the right distance for life to be possible on it.

NOTES

Words Explained :

pack :	put into box, parcel, etc.; put things into box, etc., get or become crushed into small space. I must pack my suitcase (fill with articles) before the taxi comes to take me to the station.
spare :	do without, let another have, give what is not needed. She told the robber to take her money but to spare (not to take) her life. Can you spare the beggar a rupee? We have a spare bed for visitors. Have you a spare shirt to lend me?
average :	number got by the addition of separate numbers and division of this by a number of such numbers; what is normal or representative. His work is about average, or below or above average.
rare :	Seldom, not often.
radiation :	giving out rays of light or heat; coming out as rays in all directions from middle point.
organism :	living body having parts dependent upon one another.
reproduce :	increasing number of one's sort by having off-spring.
complex :	not simple, hard to get clear or straight Complex machinery, complex argument, complex sentence.
planetary :	of planets; planet, a star moving round the sun.
space :	that in which all physical things have their being. A space of hundred yards. We

	should have enough space between the houses. In open space.
calculation :	Something worked out by mathematics; decision as to effect event, by balancing reason, etc. A calculating machine; a rough calculation.
Milky way :	the galaxy, the shining countless stars and nebulae stretching across the night sky.

ANSWER THESE QUESTIONS

1 How is it that a star seldom finds another star near it?

2. What happened when, according to Sir James Jeans, a wandering star, wandering through space, came near the sun ?

3. What happened when the wandering star came nearer and nearer ?

4. What are planets and how did they come into existence ?

5. Why is there no life on the stars ?

6. Write a note on the beginning of life on the earth.

7. Why is the universe, of which our earth is a part, so frightening ? Give as many reasons as you can.

8. What, in your opinion, should be the conditions necessary, for the kind of life we know to exist on other heavenly bodies ? Do such conditions generally exist ?

***

6

USING THE SCIENTIFIC METHOD

Darrel Barnard & Lon Edward

All of us have benefited greatly from the use of scientific method in solving problems such as those dealing with the maintenance of health, the production and preservation of foods, the construction of our homes, and the improvement in communication and transportation. Not only have our ways of living changed, but people themselves have also been changed. Today we are better able to explain happenings which used to be considered strange and mysterious. Although there is still need for improvement, we are now generally less fearful than our fathers and grandfathers were. We are also more critical in our thinking than our ancestors.

This lesson should help you understand how the use of scientific method has improved living conditions and changed people. It should also help you understand how you can make better use of the scientific method in your everyday living.

Better Control of Disease. If you had been born two hundred years ago, you would have had about one chance in eight of living to be one year old. In other words, in those days about seven out of eight babies died before reaching their first birthday. Suppose you had been an unusually strong little fellow and had lived through that first year. Very likely, before you were six years old, you would have had smallpox, and by the time you reached the age of twelve, you would undoubtedly have had measles, whooping cough, scarlet fever, and diphtheria. Even then your battle for life was not over. Yellow fever, malaria, typhus, cholera, typhoid fever, and even influenza, once started, spread through a community. Life was most uncertain. A person who lived to be more than thirty years of age was indeed fortunate. It is unbelievable that such conditions could have existed so short a time ago. Today babies are born in hospitals where there is little likelihood of their getting a disease. Young people are treated to protect them against smallpox, diphtheria, and typhoid fever. Today a person can expect to live to be almost seventy years old. In other words, more than thirty years have been added to the expected length of man's life. These changes have been made possible by use of the scientific method to solve such problems as the causes of disease and its prevention.

Better Sanitary Conditions. It is difficult to imagine what sanitary conditions in some of our larger cities were like only one hundred years ago. Into the narrow, unpaved, and poorly drained city streets household garbage and other refuse were thrown. Animals wandered through the streets, feeding upon the garbage. Outdoor toilets were common many of them situated where human wastes drained into wells from which people obtained drinking water.

Today our city streets are paved and well drained, and they are cleaned regularly. It is against the law to throw garbage in the streets. Sewage from all sections of a city is carried through sealed pipes to disposal plants. Through the use of the scientific method it has been demonstrated that unsanitary conditions cause the spread of diseases like typhoid fever, cholera and dysentery. Today most city governments have departments of sanitation which keep the cities clean and thereby prevent the spread of certain diseases.

A century ago it was common practice in many cities to buy water by the bucketful for household use. Water had to be carried a considerable distance from the well to the home. It was therefore used very sparingly for bathing and cleaning purposes. Often it came from sources that contained disease – producing germs.

Towns and cities today have water systems that usually provide water enough for household use. One of the most important problems in the growth of cities has been to provide sufficient water to meet the many needs of an increasing population. Los Angeles has solved the problem by bringing water to the city from the Colorado River, 544 kilometres away. Carried through a pipe line, or aqueduct, a thousand million litres of water are delivered to the district daily. This is a remarkable advance from the bucket system of supplying homes with water.

More Food and Better Food. Changes have taken place, too, in our eating habits. Through the use of science we have learned that it is healthful to eat many kinds of food, and we have learned how to provide ourselves with a variety of foods throughout the year. People who lived a century ago probably enjoyed eating as much as we do today, but they could not have as many different kinds of food. Most of their foods had to be produced on their own farms or in their own gardens. Since fresh vegetables could be obtained only during the growing season, people living in cold climates had none during the winter months. Thrifty housewives preserved their home-grown vegetables and fruits by canning, pickling, or drying them for use during the cold weather. Meats were preserved by salting and drying or by freezing when the weather was cold enough. Sea foods were generally available only along the coast, fish and shell-fish could be eaten soon after they were caught.

Regardless of where people live today, they can obtain some fresh fruits, meats and vegetables throughout the year. By the quick-freeze method, vegetables, fruits, sea-foods, and meats of various kinds can be preserved so that they are both nutritious and enjoyable. Modern methods of selecting, grading, and processing foods have removed the risk or danger of poisoning from canned foods, Dehydration, or the removal of water from such foods as milk, eggs, potatoes, and apples, has proved a practical method of preservation.

Our eating habits are not the only things in our lives changed by the use of science. Because we have used science to learn more about the processes and materials in our surroundings and about the methods of controlling them, we have been able to improve our ways of building houses, our methods of communication and transportation, and even the way we spend our leisure time.

Better Attitudes. By an attitude we mean the way we feel toward some idea or some event. If a person believes that wearing some kind of charm will prevent him from having bad luck, he will wear the charm, and will feel uncomfortable without it. Feelings which involve fears such as this are called superstitions. Superstitious people believe in signs of good or bad luck, and their lives are greatly influenced by such signs.

Superstitious beliefs are being overcome by using the scientific method to demonstrate that there is no sound basis for them. Few people today believe that diseases are caused by evil spirits. Though astrology and fortune-telling are still practised, they do not influence the lives of as many people as they once did. It has been learned that there is always a good natural reason for everything that happens to people. As a result, most people no longer fear black cats, broken mirrors, and the number 13.

By the scientific method it has been demonstrated that ideas are not necessarily true because they have been believed for a long time. Ideas must now be supported by facts in order to be acceptable to the scientist or to people who use the scientific method.

The discoveries of scientists have helped people develop an attitude of open-mindedness. They are more willing to look for new truths than to assume that what has been considered true will always be true. Because people have had to change their old ideas as a result of new discoveries made by scientists, they are less likely to accept conclusions as final.

NOTES

Words Explained :

maintenance :	keep going in good condition. The train maintained a speed of 50 miles per hour. She has to maintain a large family.
communication :	act of getting in touch with, act of imparting news or giving information. Communication between these two villages is slow.
transportation :	act of taking persons, goods from one place to another.
prevention :	prevent is to keep things from taking place, or persons from doing.
sanitary :	clean, healthy.
drain :	waterway for taking of water.
garbage :	food etc., put out as waste.
refuse :	waste material.
outdoor toilet :	easing oneself in the open.
human waste :	waste material sent out by human bodies.
sewage :	matter conveyed in sewers.
nutritious :	with high food value.
use sparingly :	economically, with great care, as little as possible.

delivered :	supplied. The postman delivers our letters at 8 a.m.
thrifty :	careful in the use of money and goods.
housewife :	woman controlling household, woman keeping house.
canning :	getting food tinned.
pickling :	keeping meat good by salt and vinegar.
grading :	putting in order, in grade.
processing :	putting goods through some process, or way of making.
leisure :	time free from work.
charm :	words, acts or things credited with strange powers.
sign :	omen.
astrology :	observation of the stars in the belief that their motion has an effect on man's life.
open-mindedness :	willingness to accept new ideas, a liberal outlook.

ANSWER THESE QUESTIONS

1. How has the scientific method helped us in our fight against disease ?
2. Write a note on the better sanitary conditions available in our cities today and compare them with what they were like a hundred years ago.
3. What are the sanitary conditions like in our villages today and how would you improve them ?
4. How has the scientific method helped us in the production and preservation of foods ?
5. We are now generally less fearful than our ancestors.

What were our ancestors afraid of ?

6. How has the scientific method enabled us to get over the old fears ?
7. What part did astrology play in the lives of men and women in the past ? Give examples.
8. Describe some of the superstitions still current in our country. How do they affect the lives of those who believe in them ?

***

13

WHY BOYS FAIL IN COLLEGE

Herbert E. Hawkes

Of the boys who do not reach their natural academic boundary during the course of their college career, but who fail to get through, there are two main classes: those who try, and those who do not try. Many boys attempt seriously to make good, and really have the native ability to do so, but find it almost impossible to sit at a desk and concentrate on the tasks assigned. There is the boy who sits down to study, opens his book, but before starting on his work says to himself, "I think that I had better sharpen my pencil; it needs it badly." And when he has sharpened it, he observes that all his pencils need sharpening. And so on, until his time is gone and nothing has been done. Such nervous habits are not easy to uproot, and, so far as I can see cannot be eradicated by anyone but the boy himself. Others can see the difficulty, but the boy must take himself by the collar and make himself cultivate a poise and calm that smothers the fidgets. Until he does this, he does not really try, although he thinks he's trying and often spends more time in the presence of an open book than many a boy of equal ability who does good work.

A common cause of failure is a mistaken ambition for the boy on the part of his parents. More often than I should wish, I find a boy who is not showing any interest in his work, and who is not trying to do it with any distinction, because he is following a direction, mapped out by his parents, that runs counter to all of his interests and abilities. I have made a number of very warm enemies among the parents of college students by telling them that I am certain that the good Lord never intended their son to be a physician, or a dentist, or an engineer. It may be that the boy has ability enough to be anyone of these things, but the long and short of it is, he does not want to be. He wants to be a theatrical manager, or a businessman, or a book-illustrator. It may be unreasonable for the boy to turn his back on a fine opening in the dental profession in favour of business. But reason cannot control all of these matters. As well argue with a person that he ought to like onions when he detests them. As a general thing, the boy wins out in such controversies. And he should. Also, be it said, the parent whom I have offended usually comes around after a term of years and tells me that his son was right and that he is thankful to me for taking the part of the boy in the argument. If such a boy fails, it is because he cannot bring himself to try to do the work that is distasteful to him, and that he feels is leading him in the wrong direction. If the college is alive to its work of advice, such cases are caught before the failure is complete.

Another type of boy who does not try is the very bright boy who has always done his school work without effort, and who has never learned what real application is. He supposes that he can float through college with as little effort as he did through school. I sometimes think that the bright boy who has always depended on his ability to get things quickly, is the most pitiable object among all our failing students. For it is almost a tragedy to see all of this keenness going to waste, and to feel that the entire opportunity which the college has to offer is passed up because of a too receptive mind. The cure for this sort of thing is again not easy, for it involves an entire change of attitude, and the forming of a completely new set of habits. No one can do this but the boy himself. All that the rest of us can do is to point out what is the matter.

The question of health, both physical and mental, is always one of the reasons for failure. If an adequate health service is available in the college, and if proper cooperation exists between the teaching staff and the office of the college doctor, an immense number of failures can be avoided, and, what is just as important, the reason for inability to do satisfactory college work can be clearly understood by the boy, his parents and the college authorities. In the case of poor academic work, the reason for which is not apparent, it is my custom always to ask the student to undergo a thorough physical examination. It is surprising to find out in how large a percentage of such cases the university physician finds an adequate reason for the difficulty. Tuberculosis, bad tonsils, sleeping sickness, poor digestion, various forms of mental and nervous difficulty have been brought to light by the doctor during the past few months, to the unspeakable relief of the student and enlightenment of the faculty. Occasionally, one meets an old-fashioned person like the father who told me a few months ago that, although we had arranged to have his son's tonsils removed without expense, he would not consent to the operation. He asserted that God put those tonsils in his son's throat for some good purpose, and that he would not stand for their removal. Since the boy was absorbing too much poison to permit proper application to his college work, we had to ask him to go home. Of course, such cases are rare. But it is necessary to keep constantly in mind the simple fact that there is no substitute for health, and that, however much a man may know, it is not of much value unless he possesses the physical vigour to bring it to bear on the world's problems.

Nowadays, when most ambitious boys want to go to college, the financial pressure is a very serious one. Some few parents take the position that the boy should earn his way through college for the good of his soul. As a matter of fact, no boy ought to be compelled to earn his entire way through college if it can in any way be avoided. Not only does he get a mighty poor living by the process, but a mighty poor education as well. If the boy ought to go to college at all, he ought to be trusted to make good use of reasonable contribution from his parents toward his expenses. Any parent owes this much to his son. The boy did not ask his parents to bring him into the world. They are responsible for his being here, and consequently they have the responsibility for giving him the best equipment possible to meet the world's problems.

Nevertheless, many boys are cast entirely on their own resources for their college expenses. And it is always to the detriment of their health, or the value of their education, or both. Any boy can earn a part of his expenses without hurting himself, and in my experience many boys are willing to earn more than their share in order to save the burden of their parents. But to see boys by the dozen take jobs lasting from six o'clock in the evening till two in the morning, six days in week; to see boys undergoing transfusion of blood to get money for their food and books, is a heartrending spectacle. Many of our boys of finest character and excellent ability are doing just this kind of thing. And inevitably it is an important reason for apparent failure. Most colleges do all they can with scholarship funds to alleviate this situation, but even when everything possible is done, every dean who knows his students can recall many cases of boys who have been obliged to drop out for the lack of a little money to see them through.

There are always a goodly number of undergraduates whose heads are turned and whose judgment is perverted by the attractiveness of athletic sports and literary (so called) activity. All of these features of college life have their place, and should receive the support of those students who are interested in them. In my experience, the awakening of a clear judgment as to what the college is for is not as difficult as is often supposed. If a boy is too much interested in these side shows he ought to get out of the main tent and become professional. But most of them really are not, and if reasoned with by a friend who knows youth and understands the importance of the college opportunity, they will not allow themselves to be swept off their feet by athletics. I do not think that this sort of thing is as serious a reason for failure as do some of the critics of our colleges who see things from the outside and at a long range.

A few lazy bluffers drift into college and usually drift out again. Most of them have not found any serious interest in life, and some of them never will. It is usually wise to let them retire to the cold world for a reason and find out by experience how much demand there is for a lazy bluffer. Sometimes they learn their lesson and return to do first rate work. But the burden of proof is always on them to show that they mean business.

On the whole, the problem that the college dean faces calls for about the same diagnostic ability as the physician's. He is helping the young men under him to see life steadily and see it whole. If he can save boys from failure through foolishness, sickness and sin, he is doing his part of the job.

NOTES

Words Explained :

do not..... boundary :	do not complete their education, fail to get the required degree, etc.
get through :	pass.
native ability :	natural ability.
concentrate...... assigned :	give full attention to the given work.
eradicate :	root out, put an end to.
take ... collar :	deals firmly with himself.
poise ... fidgets :	balance and self-discipline which keep back nervous excitement.
mapped out :	planned.

run-counter to :	go against.
long and short of it :	all that can or need be said.
opening :	position which business is offering.
detest :	have great hate for.
win out :	succeed.
controversy :	argument especially of public sort as in a newspaper.
offend :	displease.
himself to try :	does not feel inclined to try.
alive to :	conscious of.
application :	to apply,
float through college :	pass, get through
keenness :	strong desire.
passes up :	not used, not utilised.
receptive :	able or quick to receive ideas.
attitude :	point of view, way of looking at something.
adequate :	enough, satisfactory.
health service :	medical aid.
apparent :	clearly seen.
enlightenment :	knowledge.
substitute :	person or thing taking the place of another.
to bring it to bear :	apply.
earn his way :	earn to pay for his education.
mighty :	very large and strong.
detriment :	damage, loss, injury.
transfusion of blood :	putting blood from one living body into another.

heartrending:	very painful.
inevitably :	bound to happen, as a matter of course, necessarily.
see them through :	enable them to finish their course
heads are turned :	feel very vain.
perverted :	get turned to a wrong use.
side shows :	games etc. which are not a real part of college education.
professional :	doing a thing for a living.
swept off their feet :	allow themselves to be carried away.
see things at a long range :	from a distance.
bluffer :	one who bluffs to deceive others.
drift :	go aimlessly.
cold world :	hard unsympathetic world.
burden of proof :	obligation to prove a given statement.
see it whole :	see life in a balanced way and from all sides.

ANSWER THESE QUESTIONS

1. According to the author there are some boys who fail because they do not try. Who are they ? Can we help them ?
2. How does mistaken ambition on the part of boys and their parents lead to the failure of the boys ?
3. There are some boys who have done well at school but fail to make their mark at college. Who are they ? Do you have such boys in college in your country ?
4. How does financial pressure lead to the failure of

students described in the lesson ? Do you have similar cases in your country ?

5. To what extent does the question of health lead to failure at college ? How far can the college authorities with their medical officers help students in such cases ?
6. What place would you accord to sportsmen in colleges?
7. There are some students who join college for the fun of it. Should they be allowed to stay ?

***

END OF TERM

David Daiches

I belive a school teacher wrote a book some years ago with title "Friday Thank God". That phrase expresses perfectly my attitude to the arrival of the week-end during term time when I was a school boy. The daily grind of school, with its abundant homework, its fierce competition, the sense of never being able to relax, pressed heavily upon me in spite of the fact that I often enjoyed the actual class room work. Waking up in the morning with the knowledge that one simply had to get out of bed, that there was no possibility of turning over for an extra doze, and seeing the hours of school stretching ahead, was a dismal experience, especially on a Monday. We had a maid once who would climb each morning with grim steps up to the attic floor where Lionel and I slept in one bedroom and my sister Sylvia in another, and announce in deep, funereal tones: "Lionel, David, Sylvia – time!" I used to lie waiting for that ominous tread on the uncarpetted attic stairs, and the voice it heralded sounded in my ears like a summons to damnation. The anticipation was always worse than the reality; I don't remember ever being especially unhappy in class; but the oppressive weight of the knowledge of a full day's school ahead remained a characteristic sensation of my childhood and disappeared only after I had left school and entered the university, where the smaller number of classes to be attended and the freedom of the student to come and go meant a completely new kind of academic world. To wake up on a Thursday morning to feel the end of the week already lying ahead: Friday morning was positively rose-coloured. The last 'period' (as each of our lessons was called) on a Friday, whatever the subject, had its special happy flavour of the end of the week, and one walked home from school on a Friday afternoon (however much homework had been assigned for the Monday) with the tread of an escaped prisoner. Friday night, with two solid days before school again, was the best night of the week; Saturday night, with still a whole day between it and Monday, was pleasant in a quite different way; Sunday night was full of the threat of Monday morning.

Sometimes there were unexpected respites – a half holiday to let us attend a football match which some unforeseen circumstance had caused to be cancelled the preceding Saturday, or the sudden dismissal of school an hour or two before the usual time because of some unexpected crisis or celebration. But these were few and far between. Once a term we had the annual mid-term holiday, a Monday off, which made a luxuriously long week-end (but it seemed to go just as fast as ordinary week-ends), and occasionally in winter if there had been a continuous hard frost for some days we would get a whole day's 'skating holiday'. These were blessed breaks in routine, but not, of course, comparable to the holidays we got at Christmas and at Easter – three weeks each in my earlier school days, later tragically reduced to a fortnight and then (if my recollection of loss is not misleading me) to a mere ten days. But 'the' holidays were the summer holidays, the two months' vacation we got in the summer time, and it was these months towards which the whole year moved.

Two months seemed a long, long time in those days; indeed, I used to have the feeling that, for all practical purposes, I could look forward to a period of permanent felicity. I would walk home across the Meadows in the July sunshine, wearing my summer school clothes of grey cricket shirt, grey shorts, and red Wetson's blazer, and savour my happiness with conscious relish. I could hardly believe that three strenuous school terms had indeed rolled away and the longed for, dreamed of almost (it seemed at times) mythical summer holidays were at hand, unspoilt as yet, lying intact and promising just ahead. It all seemed too good to be true. Wishes didn't come true in this life – I knew that : all my early childhood I longed desperately for a tricycle, which my parents could never afford, and later the wish was transferred to a bicycle, and there, too I was permanently disappointed. (I bought my first bicycle for myself when I was twenty-one with prize money I had won at Edinburgh University). How often had I stood outside sweet shops with empty pockets longing for a penny or two to materialise somehow or hung on the outskirts of a crowd around an ice-cream barrow wondering whether the ice-cream man would be miraculously inspired to offer me a 'cornet' or a 'slider' free. These things never happened. (The few pence a week pocket-money we received was to be put into a money-box and saved, and during our early childhood Lionel, Sylvia and I never had anything to spend for ourselves). Yet summer and the summer holidays did come; the school year did come to an end; and one did find oneself at last standing by the trunks and suitcases outside No.6, Millerfield Place, waiting for the taxi (glorious vehicle) that was to convey the family and its luggage to the railway station.

NOTES

Words Explained :

week-end :	Saturday and Sunday, sometimes Friday and Monday.
grind :	hard work.
relax :	rest from work.
doze :	sleep.
dismal :	sad, without comfort.
grim :	hard, cruel.
funereal :	gloomy, dismal, dark.

ominous :	being or giving bad omen.
herald :	proclaim the approach of.
damnation :	condemnation to hell.
anticipation :	know, realise beforehand.
sensation:	being conscious of some effect on one's body, feeling.
rose-coloured :	beautiful, pleasing.
flavour :	quality of taste mixed with smell, special quality.
respite :	time of rest.
crisis :	time of great danger.
routine :	regular, fixed order of doing things.
felicity :	intense happiness.
savour :	speical taste or smell of something; suggestion of some quality.
relish :	the special taste or quality of something, pleasing.
strenuous :	using, needing great force, hard working.
mythical :	without existence in fact.
materialise :	take form or shape.
outskirts :	outer edge.
miraculously :	in a strange unexpected way.
inspire :	put thought or feeling into a person.

ANSWER THESE QUESTIONS

1. What was Daiches' attitude towards the week-end as a school boy ? Why did he long for it ?
2. What was his general view of school life ?
3. He liked holidays for their freedom – freedom from

what ?

4. How did he spend his summer holidays ?
5. Wishes don't come true in this life, writes Daiches. What are the things he longed for but could not have ?
6. What did he do with his pocket money ?

***

ON DESTROYING BOOKS

J. C. Squire

It says in the paper that over two million volumes have been presented to the troops by the public. It would be interesting to inspect them. Most of them, no doubt, are quite ordinary and suitable; but it was publicly stated the other day that some people were sending the oddest things, such as magazines twenty years old, guides to the Lake District, and back numbers of Whitaker's Almanac. In some cases, one imagines, such indigestibles get into the parcels by accident; but it is likely that there are those who jump at the opportunity of getting rid of books they don't want. Why have they kept them if they don't want them? But most people, especially non-bookish people, are very reluctant to throw away anything that looks like a book. In the most illiterate houses that one knows every worthless volume that is bought finds its way to a shelf and stays there. In reality it is not merely absurd to keep rubbish merely because it is printed: it is positively a public duty to destroy it. Destruction not merely makes more room for new books but saves one's heirs the trouble of sorting out the rubbish or storing it.

But it is not always easy to destroy books. They may not have as many lives as a cat, but they certainly die hard: and it is sometimes difficult to find a scaffold for them. This difficulty once brought me almost within the shadow of the Rope. I was living in a small and (as Shakespeare would say) heaven-kissing flat in Chelsea, and books of inferior minor verse gradually accumulated there until at last I was faced with alternative of either evicting the books or else leaving them in sole, undisturbed tenancy and taking rooms elsewhere for myself. Now no one would have bought these books. I therefore had to throw them away or wipe them off the map altogether. But how? There were scores of them. I had no kitchen range, and I could not toast them on the gas-cooker or consume them leaf by leaf in my small study fire – for it is almost as hopeless to try to burn a book without opening it as to try to burn a piece of granite. So in the end I determined to do to them what so many people do to the kittens: tie them up and consign them to the river. I improvised a sack, stuffed the books into it, put it over my shoulder, and went down the stairs into the darkness.

It was nearly midnight as I stepped into the street. There was a cold nip in the air, the sky was full of stars: and the greenish-yellow lamps threw long gleams across the smooth, hard road. Few people were about, and here and there rang out the steps of solitary travellers on the way home across the bridge to Battersea. I turned up my overcoat collar, settled my sack comfortably across my shoulders, and strode off towards the little square glow of the coffee-stall which marked the near end of the bridge, whose sweeping iron girders were just visible against the dark sky behind. A few doors down I passed a policeman who was flashing his lantern on the catches of basement windows. He turned. I fancied he looked suspicious, and I trembled slightly. The thought occurred to me: "Perhaps he suspects I have swag in this sack." I was not seriously distrubed as I knew that I could bear investigation, and that nobody would be suspected of having stolen such goods (though they were all first editions) as I was carrying. Nevertheless I could not help the slight unease which comes to all who are eyed suspiciously by the police, and to all who are detected in any deliberately furtive act, however harmless. He acquitted me, apparently; and, with a step that, making an effort, I prevented from growing more rapid, I walked on until I reached the Embankment.

It was then that all the implications of my act revealed themselves. I leaned against the parapet and looked down into the faintly luminous swirls of the river. Suddenly I heard a step near me; quite automatically I sprang back from the wall and began walking on with, I fervently hoped, an air of rumination and unconcern. The pedestrian came by me without looking at me. It was a tramp, who had other things to think about; and, calling myself an ass, I stopped again. "Now for it," I thought; but just as I was preparing to cast my books upon the waters I heard another step – a slow and measured one. The next thought came like a blaze of terrible blue lightening across my brain: "What about the splash?" A man leaning at midnight over the Embankment wall; a sudden fling of his arms: a great splash in the water. Surely, and not without reason, whoever was within sight and hearing (and there always seemed to be some one near) would at once rush at me and seize me. In all probability they would think it was a baby. What on earth would be the good of telling a London constable that I had come out into the cold and stolen down alone to the river to get rid of a pack of poetry? I could almost hear his gruff, sneering laugh : "You tell that to the Marines, my son!"

So far I do not know how long I strayed up and down, increasingly fearful of being watched, summoning up my courage to take the plunge and quailing from it at the last moment. At last I did it. In the middle of Chelsea Bridge there are projecting circular bays with seats in them. In my agony of decision I left the Embankment and hastened straight for the first of these. When I reached it I knelt on the seat. Looking over, I hesitated again. But I had reached the turning-point. "What!" I thought savagely, "under the resolute mask that you show your friends is there really a shrinking and contemptible coward? If you fall now, you must never hold your head up again. Anyhow, what if you are hanged for it ? Good God: you worm, better men than you have gone to the gallows." With the courage of despair I took a heave. The sack dropped sheer. A vast splash. Then silence fell again. No one came. I turned home; and as I walked I thought a little sadly of all those books falling into the cold torrent, settling slowly down through the pitchy dark, and subsiding at last on the ooze of the bottom, there to lie forlorn and forgotten whilst the unconscious world of men went on.

Horrible bad books, poor innocent books, you are lying there still: covered, perhaps, with mud by this time, with only a stray rag of your sacking sticking out of the slime into the opaque brown tides. Odes to Diana, Sonnets to Ethel, Dramas on the Love of Lancelot, Stanzas on a First Glimpse of Venice, you lie there in a living death, and your fate is perhaps worse than you deserved.

NOTES

Words Explained :

Whitaker's Almanac:	it is a compendium of general information regarding the government, finance, population and commerce of the world, with special reference to the British Empire and the United States, besides being an almanac in the ordinary sense Almanac is a calendar.
indigestibles :	books that cannot be easily digested; dull, hard to understand.
reluctant :	unwilling.
sort out :	put into different groups according to size, quality.
shadow of the rope :	fear of being hanged.
evict :	expel from house etc., by law process.
accumulate :	get together by additions.
kitchen range :	fireplace for cooking.
consume them :	destroy as by fire.

granite :	hard grey stone.
consign :	give up to.
cold nip in the air :	feeling of cold.
swag :	stolen goods.
investigation :	inquiry.
furtive :	secret, not open.
swirls :	circling motion of water, air, etc.
automatically :	unconsciously.
rumination :	absorbed in thought.
unconcern :	easy in mind.
pedestrian :	going on foot, a person walking.
tramp :	person who goes from place to place and does no regular work.
measured step :	slow regular steps.
gruff, sneering laugh :	rough, unpleasing in voice, sneering laugh, smile unkindly.
tell that to the Marines :	a phrase that expresses disbelief and ridicule.
strayed :	wandered.
qualing :	being cowed, afraid.
agony :	great pain of mind or body.
resolute mask – coward :	make a show of being brave but are a coward at heart.
heave :	lifting something heavy.
ooze :	wet, liquid mud.
forlorn :	unhappy, uncared for.
slime :	mud.
opaque :	not letting light through.

ANSWER THESE QUESTIONS

1. What sort of books were presented by the British public to soldiers ?
2. Was it interest in soldiers that prompted their action, or was it the wish to get rid of useless books?
3. Why should bad books be destroyed ?
4. Why is it difficult to destroy books?
5. Why could not the author burn the unwanted books ?
6. How did he decide to get rid of them ?
7. Describe the author's midnight venture to throw the books in the river and the suspicions which his action were likely to arouse.
8. How did he muster up courage at last to fling them into the river ?
9. Did he come to have a feeling for those books once he had got rid of them ?

***

THE MAN WHO WAS A HOSPITAL

Jerome K. Jerome

It was my liver that was out of order. I knew it was my liver that was out of order, because I had just been reading a patent liver-pill circular, in which were detailed the various symptoms by which a man could tell when his liver was out of order. I had them all.

It is a most extraordinary thing, but I never read a patent medicine advertisement without being impelled to the conclusion that I am suffering from the particular disease therein dealt with in its most virulent form. The diagnosis seems in every case to correspond exactly with all the sensations that I have ever felt.

I remember going to the British Museum one day to read up the treatment for some slight ailment of which I had a touch – hay fever, I fancy it was. I got down the book, and read all I came to read; and then, in an unthinking moment, I idly turned the leaves, and began to indolently study diseases, generally. I forget which was the first distemper I plunged into – some fearful, devastating scourge, I know and, before I had glanced half down the list of "premonitory symptoms," it was borne in upon me that I had fairly got it.

I sat for a while frozen with horror; and then, in the listlessness of despair, I again turned over the pages. I came to typhoid fever – read the symptoms – discovered that I had typhoid fever, must have had it for months without knowing it – wondered what else I had got : turned up St. Vitus's Dance – found, as I expected, that I had that too, – began to get interested in my case, and determined to sift it to the bottom, and so started alphabetically – read up again and learnt that I was sickening for it, and that the acute stage would commence in about another fortnight. Bright's disease, I was relieved to find, I had only in a modified form and, so far as that was concerned, I might live for years. Cholera I had with severe complications; and diphtheria I seemed to have been born with. I plodded conscientiously through the twenty-six letters, and the only malady I could conclude, I had not got, was housemaid's knee.

I felt rather hurt about this at first; it seemed somehow to be a sort of slight. Why hadn't I got housemaid's knee? Why this invidious reservation? After a while, however, less grasping feeling prevailed, I reflected that I had every other known malady in the pharmacology, and I grew less selfish and determined to do without housemaid's knee. Gout, in its most malignant stage, it would appear, had seized me without my being aware of it: and zymosis I had evidently been suffering with from boyhood. There were no more diseases after zymosis, so I concluded there was nothing else the matter with me.

I sat and pondered. I thought what an interesting case it must be from a medical point of view, what an acquisition I should be to a class: Students would have no need to "walk the hospitals", if they had me. I was a hospital in myself. All they need to do would be to walk round me, and, after that, take their diploma.

Then I wondered how long I had to live. I tried to examine myself. I felt my pulse, I could not at first find any pulse at all. Then, all of sudden, it seemed to start off. I pulled out my watch and timed it. I made it a hundred and forty-seven to the minute. I tried to feel my heart. I could not feel my heart. It had stopped beating. I have since been induced to come to the opinion that it must have been there all the time, and must have been beating, but I cannot account for it. I patted myself all over my front, from what I call my waist up to my head, and I went a bit round each side, and a little way up the back. But I could not feel or hear anything. I tried to look at my tongue. I stuck it out as far as ever it would go, and I shut one eye and tried to examine it with the other. I could only see the tip, and the only thing that I could gain from that was to feel more certain than before that I had scarlet fever.

I had walked into that reading-room a happy, healthy man. I crawled out a decrepit wreck.

I went to my medical man. He is an old chum of mine, and feels my pulse, and looks at my tongue, and talks about the weather, all for nothing, when I fancy I'm ill; so I thought I would do him a good turn by going to him now. "What a doctor wants", I said, "is practice. He shall have me. He will get more practice out of me than out of seventeen hundred of your ordinary, commonplace patients, with only one or two diseases each." So I went straight up and saw him, and he said :

"Well, what's the matter with you ?"

I said :

"I will not take up your time, dear boy, with telling you what is the matter with me. Life is brief, and you might pass away before I had finished. But I will tell you what is not the matter with me. I have not got housemaid's knee. Why I have not got housemaid's knee, I cannot tell you; but the fact remains that I have not got it. Everything else, however, I have got."

And I told him how I came to discover it all.

Then he opened me and looked down me, and clutched hold of my wrist, and then he hit me over the chest when I wasn't expecting it – a cowardly thing to do, I call it – and immediately afterwards butted me with the side of his head. After that, he sat down and wrote out a prescription, and folded it up and gave it to me, and I put it in my pocket and went out.

I did not open it. I took it to the nearest chemist's and handed it in. The man read it, and then handed it back.

He said he didn't keep it.

I said:

"You are a chemist ?"

He said :

"I am a chemist. If I were a co-operative stores and family hotel combined, I might be able to oblige you. Being only a chemist hampers me."

I read the prescription. It ran :

"1 lb. beefsteak, every 6 hours.
Ten-mile walk every morning,
Bed at 11 sharp every night.
And don't stuff your head with things
You don't understand."

I followed the directions, with the happy result – speaking for myself – that my life was preserved and is still going on.

NOTES

"The Man who was a Hospital" is a fine example humorous exaggeration. The author wishes the reader to have a laugh at his expense. But he was not wholly wrong in concluding that he was suffering from almost all diseases. Quite a large number of diseases have common symptoms and if you read a book on diseases and their symptoms you will find that you have many of those symptoms. Behind all this fantastic exaggeration is the sound advice — don't stuff your head with things you don't understand.

Words Explained :

Symptom :	condition in body which is sign of disease.
impelled :	driven forward.
virulent :	poisonous.
ailment :	disease.
indolently :	lazily.
distemper :	a contagious disease.
premonitory symptoms :	forewarning symptoms.
borne ... me :	I realised.
St. Vitus's Dance :	name of a disease.
sift ... bottom :	to know thoroughly.
plod :	go on working, walking, slowly but without stopping.
slight :	insult.
invidious reservation :	a reservation that gives offence.
grasping :	selfish.
pharmacology :	theory of the use and sale of medical drugs.
malignant :	serious, violent.
acquisition :	something worth acquiring, a rare thing to have.

crawled ... wreck :	walked out slowly like an old and feeble person who has broken down.
butted :	gave blow, pushed with head.
hamper :	obstruct.
scourge :	to afflict.

ANSWER THESE QUESTIONS.

1. How did Jerome K. Jerome come to suspect that his liver was out of order. What were the diseases he thought he was suffering from on reading a book on the treatment of diseases ?
2. What was the disease he discovered he didn't have ?
3. Was he pleased to find he didn't have it ?
4. What was his first reaction ?
5. Why should he be an acquisition to the medical class?
6. Describe his visit to the medical man.
7. He thought he was doing the doctor good turn by going to him. Why ?
8. What was the prescription given to him by the doctor ?
9. Describe his visit to the chemist.
10. What is the significance of the doctor's advice: don't stuff your head with things you don't understand ?

***

MY FINANCIAL CAREER

Stephen Leacock

When I go into a bank I get rattled. The clerks rattle me; the wickets rattle me; the sight of the money rattles me; everything rattles me.

The moment I cross the threshold of a bank and attempt to transact business there, I become an irresponsible idiot.

I knew this beforehand, but my salary had been raised to fifty dollars a month and I felt that the bank was the only place for it.

So I shambled in and looked timidly round at the clerks. I have an idea that a person about to open an account must needs consult the manager.

I went up to a wicket marked "Accountant." The accountant was a tall, cool devil. The very sight of him rattled me. My voice was sepulchral.

"Can I see the manager?" I said, and added solemnly, "alone." I don't know why I said "alone."

"Certainly," said the accountant, and fetched him.

The manager was a grave, calm man. I held my fifty-six dollars clutched in a crumpled ball in my pocket.

"Are you the manager?" I said. God knows I didn't doubt it.

"Yes," he said.

"Can I see you," I asked, "alone?" I didn't want to say "alone" again, but without it the thing seemed self-evident.

The manager looked at me in some alarm. He felt that I had an awful secret to reveal.

"Come in here," he said, and led the way to a private room. He turned the key in the lock.

"We are safe from interruption here," he said, "sit down."

We both sat down and looked at each other. I found no voice to speak.

"You are one of Pinkerton's men, I presume," he said.

He had gathered from my mysterious manner that I was a detective. I knew what he was thinking, and it made me worse.

"No, not from Pinkerton's," I said, seeming to imply that I came from a rival agency.

"To tell the truth," I went on, as if I had been prompted to lie about it, "I am not a detective at all. I have come to open an account. I intend to keep all my money in this bank."

The manager looked relieved but still serious; he concluded now that I was a son of Baron Rothschild or a young Gould.

"A large account. I suppose." he said.

"Fairly large," I whispered. "I propose to deposit fifty-six dollars now and fifty dollars a month regularly."

The manager got up and opened the door. He called to the accountant.

"Mr. Montgomery," he said unkindly loud, "this gentleman is opening an account, he will deposit fifty-six dollars. Good morning."

I rose.

A big iron door stood open at the side of the private room.

"Good morning," I said, and stepped into the safe. "Come out," said the manager coldly, and showed me the other way.

I went up to the accountant's wicket and poked the ball of money at him with a quick convulsive movement as if I were doing a conjuring trick.

My face was ghastly pale.

"Here," I said, "deposit it." The tone of the words seemed to mean, "Let us do this painful thing while the fit is on us."

He took the money and gave it to another clerk.

He made me write the sum on a slip and sign my name in a book.

I no longer knew what I was doing. The bank swam before my eyes.

"Is it deposited ?" I asked in a hollow, vibrating voice.

"It is," said the accountant.

"Then I want to draw a cheque."

My idea was to draw out six dollars of it for present use.

Someone gave me a cheque-book through a wicket and someone else began telling me how to write it out. The poeple in the bank had the impression that I was an invalid millionaire. I wrote something on the cheque and thrust it in at the clerk. He looked at it.

"What! Are you drawing it all out again?" he asked in surprise.

Then I realised that I had written fifty-six instead of six. I was too far gone to reason now. I had a feeling that it was impossible to explain the thing. All the clerks had stopped writing to look at me.

Reckless with misery, I made a plunge.

"Yes, the whole thing."

"You withdraw your money from the bank?"

"Every cent of it."

"Are you not going to deposit any more?" said the clerk, astonished.

"Never."

An idiot hope struck me that they might think someone had insulted me while I was writing the cheque and that I had changed my mind. I made a wretched attempt to look like a man with a fearfully quick temper.

The clerk prepared to pay the money.

"How will you have it?" he said.

"What ?"

"How will you have it ?"

"Oh" . . . I caught his meaning and answered without even trying to think. . . " in fifties."

He gave me a fifty-dollar bill.

"And the six ?" he asked dryly.

He gave it to me and I rushed out.

As the big door swung behind me I caught the echo of a roar of laughter that went up to the ceiling of the bank. Since then I bank no more. I keep my money in cash in my trousers pocket and my savings in silver dollars in a sock.

NOTES

Words Explained :

get rattled :	gets on my nerves, puts me at a loss.
wicket :	a small door.
irresponsible idiot :	a careless fool.
shamble :	walking badly without lifting feet enough.
sepulchral :	funereal, gloomy.
crumple :	get crushed into folds.
Rothschild :	a family of international bankers.
poke :	push.
convulsive movement :	with violent uncontrolled movement of muscles.

conjuring trick :	do tricks producing seemingly magic effects.
vibrating :	shaking.
invalid millionaire :	a man of great wealth who is disabled by illness.
reckless :	rash, not caring for consequences.

ANSWER THESE QUESTIONS

1. What light do the following expressions throw on Leacock's state of mind when he entered the bank: 'looked timidly round', 'shambled in'?
2. Why did the manager come to think that Leacock had an awful secret to reveal ?
3. What was the attitude of the manager towards Leacock on learning that he only wished to deposit 56 dollars in the bank ?
4. What other blunders did Leacock commit after leaving the manager's office ?
5. After this misadventure in the bank where did Leacock keep his money ?
6. Give as many examples as you can to show that Leacock was feeling completely lost in the bank all the time he was there.

***

CHINA'S WAY TO PROGRESS

Galeazzo Santini

For twenty-two years China lay forgotten and was even confused with a small island—one of its provinces—and the flexible Chinese bamboo curtain was countered by a Western curtain of rigid disregard. Then suddenly that one-fourth of mankind enclosed in the world's third largest country was brought out of the memory attic, with a loud bang. The Chinese may have introduced the smile policy, but the Occidentals certainly launched the warm hug. The crowd of official visitors to Peking, performing a devoted quasi-pilgrimage, is now more numerous than the battalions of traders who go twice yearly to the traditional Canton Fair. Seventy-three year old Chou En-Lai will end up dislocating his right hand if he goes on shaking it at the present rate with delegations running into hundreds of people at a time, his eyes blinded by the constant flashing of the official souvenir photographers. The queue of countries on the waiting list to recognize the People's Republic of China is growing longer with the mounting awareness of the absurdity of the past oblivion or a political guilt complex for having kept China out of the U.N. for a long time.

China is now the fashion around the world, and in no uncertain terms. Everywhere politicians of the most conservative and bourgeois kind are attempting to rebuild for themselves a compromised career by singing the praises of Mao Tse-Tung.

An Exemplary Social Experiment. When confronting the enigma of the Chinese planet, too many Westerners have forgotten the Asiatic background and painful colonial history. But when the Communists came to power in 1949 the vast majority of the country carried on as it had been doing for the past 2,000 years, in an early Iron Age economy. And on countless occasions during our visits to the agricultural communes we were proudly told: "Here we didn't even have the life of the oxen and horses!" Compared to China in 1949 Russia in 1917 did not have the grim inheritance of a century of a shattering multi-colonial experience. Russia never suffered China's fate of such a sharp and pervasive Western impact that it was forced – together with many other Asiatic civilizations – into a kind of national schizophrenia not just in terms of a split economy, but above all in terms of a split culture and a split personality.

In China the individual has been rescued from the aftermath of this unfortunate heritage by the newfound companionship, common purpose and discipline of mass-organization. Just as the Vietnamese have withstood American technology so the ascetic militant Chinese have gone straight to the roots of the problems that have plagued Asian countries for thousands of years – the lack of food and low levels of nutrition, gross inequalities of income and consumption, unemployment and a sense of social uselessness, and the blind expansion of the cities.

Decentralised Economy. The gigantic Chinese social experiment does not only concern Asia however, but the West too, which has always claimed to have found the final answer to the problem of man and civilization. For years the Chinese have been striving to make the world realise, through their official interpreter and personal friend of Mao, Edgar Snow, that there are other important things in life besides an increase in GNP.

The Chinese model cannot be analysed according to its differences from the Western system. It involves an utterly different approach. It is the creation of a new world and a new man. The cities show an absense of automobiles (which is "neither backwardness nor delay, but a rejection," to quote Robert Guillain), advertising, neon signs, and the three fevers of money, alcohol and sex. Political control over the masses not only stops the exodus from the countryside, but even manages partly to reduce the populations of cities.

In the year 2000 China will still be a powerfully agricultural and peasant country, for its modernisation will have occurred without a flight from the fields, which is the price paid by the West. In China too the average size of farming concerns is growing through the system of communes, with subdivisions into production brigades and teams, but the greater part of the peasant masses stay put and carry on their traditional, intensive labour. Agricultural mechanisation is being introduced with considerable caution so as to avoid upsetting the balance. But the essential point of the matter is that the agricultural labourer, though possibly deprived of farming machinery, must not and does not want to be urbanised, but is instead kept on the spot and incorporated in local small industries. He does not flee to the cities because the industrial road passes through a technically-orientated agriculture and a decentralised industry. Economic decentralisation, which is perhaps the most important step in Chinese domestic policy since the Great Proletarian cultural Revolution, has freed China from a traditionally cumbersome bureaucracy and developed local enterprise to the greatest possible degree of independence. The 26 Chinese provinces, which are as much as even 4,400 kilometres apart, could for that matter, subsist on their own in the event of war, while anybody invading the country would be literally drowned in a sea of people.

This brings us to the human side of this Chinese experiment in and creation of a new world. It is simply a matter of providing that Thomas Hobbes was wrong when he wrote in his "Leviathan" that "man's condition is a condition of war with everyone against everyone." What is taking place today in the world's most populous country is therefore the education and re-education of man. The heart of the matter is the need to root out selfishness and bring into existence selfless, dedicated men whose happiness consists of serving their fellow-men in the fullest sense of the human community. In a humanism at the service of collective welfare, China is striving to conceive modernisation as part of a process of embellishment of the land-scape, development of the people's cultural life for the benefit of all instead of for the benefit of the placing the needs of man before those of the machine.

Here is what the Peking "People's Daily" has to say commenting on Mao's famous maxim: "Rely on your own forces." "National machines and equipment are not entirely indigenous since they possess a number of foreign features. They may replace foreign machines because they are superior to foreign equipment, they don't require money or at any rate very little, and are capable of doing great things. It takes much less time to use indigenous equipment which, when not available, can be promptly prepared. Indigenous equipment can produce bigger, faster, better and cheaper results. Finally, it can stimulate the revolutionary spirit of the masses and with this revolutionary spirit all difficulties can be overcome."

Day in the Life of a 16-year old. How do the students live and what do they think individually? Despite having to use an interpreter I was able to find out. Here is the result of my interview with Je Wen-Siu, a sixteen-year old girl who lives in the workers' district of Peng Pu at Shanghai. She is a pupil in class 3 at the junior school. She will shortly be taking her diploma. "How do you spend your day?" "I get up at 6 o'clock in the morning, do a few chores in the house, have breakfast and go to school at 8. I finish at 11 o'clock. I go home and have lunch. At one thirty I'm back at school again until 3 o'clock. Then I go back home and work." "How much time do you spend on homework at home?" "Well, actually I do my homework at school. At home I go through the lessons for about an hour. From 4 o'clock on I relax, reading the papers and listening to the radio." "What news are you most interested in?" "All political news which illustrate the national and international situation." "What do you do when you meet with your girl friends?" "I often go out with girls and boys of my age. We do some sports and often play ping-pong."

Chinese Women. From a Western angle there is a lack of femininity in the Chinese woman. No beauty products, no mention of sex, either in films or literature. In the land of opium, drugs are nonexistent. Mao says that women hold up half the sky and women, for their part, are determined to keep their half raised at the same height as that held up by men. When the Chinese woman lists the social benefits she enjoys – 8 hour working day, free hospitalisation and medical care, nursery and infant schools, 56 paid days before childbirth also without charge – she always çoncludes by affirming that in the West women have not yet succeeded in obtaining all this. "However, we Chinese are working so that the women of the world can be equally happy and enjoy the advantages we have." This radical change in women's conditions in China has given women a sense of confidence hitherto unknown to them, a dignity and an undoubted awareness of carrying out an important role.

Social Security Benefits. The monthly cost of living is officially calculated for every region of the country. In Peking for example, it was recently quoted at 12 – 14 yuan a month (4.80 – 5.60 dollars) of which 10 go towards board and 3 – 4 for rent in State apartments. Many workers are also housed within the factories. In the agricultural communes housing is completely free. Certain small expenses such as cinema, theatre, haircuts and work overalls are also sometimes non-existent.

All medical and hospital treatment is entirely free for every Chinese worker or peasant, while members of their family only pay 50 percent. A sick worker receives his total pay cheque for the first six months, after which he receives only 60 per cent. If, however, the patient has money problems, then his company steps in with direct assistance. Each plant, factory or agricultural commune has a health centre and a first-aid station. Only in more serious cases are the sick sent to hospital. Workers retire at the age of 60, female workers at 50, or 55 if they do clerical work. The factory can sometimes agree to keep a worker on after he has passed retirement age. Pensions are related to work seniority and vary from 50 to 70 percent of the worker's last wage. Each factory has a cafeteria where the workers can eat three meals a day for 10 – 12 yuan (4 – 4.80 dollars) a month. The cafeteria timetable is tied up with company and shift working hours. Nearly all plants boast nurseries and kindergartens where children are looked after and fed under the control of a dietician for a very modest sum (about one dollar a month). Female workers are entitled to 56 days' rest on full salary before giving birth to children. When a low-wage category worker finds he has to maintain a large family, his expenses may exceed his income.

The Chinese regime has set up an assistance system guaranteeing a minimum subsistence level. The company where the worker is employed then intervenes and raises his salary to equal the cost of living. The commune deals with those peasants having wages that are too low or who are unable to maintain their family owing to physical handicaps. It uses money from a specially constituted fund comprising 2 percent of the community's annual wage. These assistance schemes in reality are rarely resorted to, because a family nearly always has more than one source of income.

Industrial working hours are 8 hours a day, six-day a week, leaving one day's holiday a week (not necessarily Sunday). Normally there is one week's annual vacation, two weeks if the worker lives far from his family, as well as two national holidays (May 1 and October 1).

There are two opposite worlds, just as the two ways of considering China's future are opposite. One is the rigid world of figures and prospects based on economic facts as seen by the West. The other is the world of faith, of the development of Mao thought throughout China, with the little Red Book. As for Western economic laws, the endless mass of 800 million people, who can be convinced, governed and directed along the paths decided by the powers that be, might well overthrow the whole problem from all sides. Reasoning with the dry yardstick of figures, the contribution of a dollar from each Chinese would make roughly 800 million dollars and the contribution of a day's work from each person would mean two million extra labourers for one year without cost to the State. True, to increase by just one metre per head the availability of cloth for even as few as 700 million Chinese, you would need enough cloth to go round the world eighteen times while the purchase of a million and a half tons of grain is only sufficient to feed the Chinese population for 5 days. The fact remains that when the number is not simply a juxtaposition of persons, but a compact whole, then it tends to become "Power". When Mao says that it is the people, and not things, that are decisive, he is trying in fact to demonstrate that this concept apparently destroyed by modern technology is still a meaningful one.

NOTES

The article on China gives us some insight as to how China has made phenomenal progress since Independence in 1949.

The People's Republic of China is one of Pakistan's closest friends. She has provided both military and economic aid to our country. She has resolutely stood by us in every crisis as in 1965 and 1971 during our wars with India. China had also firmly supported us in the United Nations during our struggle for national integrity and independence.

Words Explained:-

Occidentals:	European; Western.
smile:	here it means, welcome.
mounting:	increasing.
oblivion:	forgetting.
schizophrenia:	a mental disease.
bourgeois:	middle class.
GNP:	Gross National Product; total production of a country in a year.
model:	here it means, economic system.
exodus:	emigration.
embellishment:	beautifying, adoring, decorating.
great proletarian cultural revolution:	a movement launched in 1966 to denounce revisionist activities.
Thomas Hobbes:	(1588–1679); An English Philosopher and one of the greatest political thinkers of his nation.
Leviathan.	a masterpiece of Thomas Hobbes.
juxtaposition:	placing of facts, things side by side.

ANSWER THESE QUESTIONS

1. Why has the world changed its attitude towards China?
2. Discuss Chinese agriculture system.
3. How does China rely on its own resources?
4. Describe a day in the life of a Chinese student.

5. Write a note on the Chinese women.
6. What are the social security benefits provided to the Chinese workers?
7. "It is the people and not the things that are decisive". Discuss.
8. "The heart of the matter is the need to root out selfishness." Discuss.

HUNGER AND POPULATION EXPLOSION

Anna Mckenzie

What is it like to be really hungry? I expect that at sometime you have all come home after an energetic game of football or netball or after a few hours when you have been too busy to eat, and said, "I'm starving!" But this hunger did not last long. If your meal was not ready for you, after a few slices of bread and butter you forgot all about those hunger pangs. But hunger does not mean missing one meal or even meals for a whole day. It means never having enough to eat. It means, when you have had some thing to eat, you are not being satisfied and still feeling you could eat at least as much again. It also means a situation in which you are always wondering where the next meal is coming from or even if there will be a next meal. Arthur Hopcraft of the *Guardian* said of starving children after visiting a nutrition centre in Kenya, "They are the children whose eyes stare as if blind, whose legs and arms are like sticks of liquorice, who neither cry nor laugh and who weigh 10 1b at the age of two years!"

Famine has been a problem since the beginning of time. The early hunter suffered grave shortages during the winter months and quite often these were serious enough to mean starvation for him and his family.

One of the first records of famine was carved in granite by an Egyptian Pharaoh. He said, "During my reign the Nile has not been in flood for seven years. Corn is scarce and food is lacking. Those who ran cannot even walk. The food bins are broken open and empty. It is the end of everything!"

We read in the Bible of many cases of famine. There were seven years of famine in Egypt and the surrounding countryside during the time of Joseph. Widespread disaster was only averted by the previous compulsory storage of food under Joseph's management during plentiful harvests. Egypt was saved from famine by this national effort but many people in the surrounding countries were left hungry. Joseph's own brothers came to Egypt from Palestine to buy grain.

From the birth of Christ to about 1800, there are records of famine in Europe in 350 different years—one famine every five years. In England during the same period there was at least one major famine every ten years. These were general famines when a large area of the country was affected but there were many more local famines. We can get some idea of these famines from our folk-lore. The stories of Robin Hood often involve local food shortages with Robin helping with transport of food, robbing the rich to feed the poor or poaching for them from the Royal forests.

But famines in Europe have been much less serious than in other parts of the world. China had ninety major famines in one century. Nine and a half million people perished in a single famine which swept North China in the last century. The Russian famine in 1921–22 killed several million people. Ten million died in the great famine of Bengal 1969–70. As recently as 1942 in Bombay one million starved to death when the rice crop failed. In India in 1964–65 there was the worst famine of the century, owing to the failure of the monsoon, and many countries gave aid on a large scale and tried to help. However, imported food could not solve the problem. Even if there had been enough available the ports could not cope with all the ships bringing the cargoes, and transport problems were so great that the food could not have been distributed to many of the isolated and hardest hit areas. A year later, India still faced an even worse threat of famine.

Famine may be caused by many things. It may be that there are just too many people for the amount of food available. It may be that crops have failed due to disease. Thousands, even millions, will die of starvation because of famines caused by lack of rain.

In fact in the world of today, not only is there not enough food, but each year there are many more people to eat it. The number of people in the world is rapidly increasing rather like a gigantic snowball which not only gets bigger as it rolls but goes faster as well. Half a million years ago the population of the world was very small but since then it has gradually increased, until by the birth of Christ the world population was about 200–300 million. The numbers doubled by 1650 and by 1850 doubled again to 1,000 million Now the world population is over 3,000 million. The population is increasing at a rate which would double the numbers in only 40 years. A tremendous population explosion is taking place. It has been calculated that unless the growth is checked in some way, within two or three centuries there will only be enough room on the earth for people to stand up.

The main reason for population increase is due to the number of people who are born in any year being greater than the number who die–that is the difference between the birth rate and the death rate. For example, in the U. K. the birth rate for 1963 (number of births per 1,000 population) was 18.2 and the death rate (number of deaths per 1,000 population) was 11.6. The population is therefore growing at the rate of 6.6 per 1,000 of the population.

In the past only a fraction of the babies born grew up. Now in the industrial countries of the West, 19 out of 20 become adults. One couple on an average need only produce just over two children to replace themselves and keep the population at the same level.

Among the Western nations the decline in the death rate has been followed after an interval by the reduction in the birth rate so that the population is not now growing so fast. But even in these areas where people have only a comparatively small number of children the low death rate means that the population is still growing fairly rapidly. In the U. S. A., where on an average each woman has only three children the population increases by almost half as many again every generation.

In Asia and the Far East the death rate has been reduced rapidly by modern medicine and epidemic control. In Ceylon, for example, the death rate was reduced by one third in two years by greatly reducing mortality from malaria. This was due to the discovery of DDT which killed off the mosquitoes which carry malaria.

Another example is yaws which until recently caused a great many deaths. This disease starts as little hard pimples which may join together to make blotches. It then spreads all over the body, forming ulcers. Muscles are destroyed and bones deformed. The sufferer becomes depressed and feels very ill. Soon after the discovery of penicillin it was realised that yaws could be cured in most cases by a single injection and in many others by just two injections. Many countries have carried out massive programmes to free their countrymen of yaws and in doing so have decreased the death rate rapidly.

The most important and the most difficult thing to achieve is a desire among individuals to limit the size of the family.

The study of the population growth indicates one of the greatest paradoxes of our time. The group of countries best able to support a rapidly growing population has a relatively low birth rate while the group least able to support their present population, let alone a larger one, has a very high birth rate.

Let us look for a moment at this second group, often called the under-developed countries, into which so many of the children of the world will be born. Everyone knows an under-developed country when he sees one. It is a country characterised by poverty, with beggars in the cities and villagers eking out a bare subsistence in the rural areas. It is a country lacking factories of its own, usually with inadequate supplies of power and light. It usually has poor roads and railways and not enough of them. Hospitals and schools and colleges are few and far between. Most people, particularly older people, cannot read or write. The goods the country exports are nearly always raw material which are much more subject to price fluctuations. This will have a bad impact on the economy.

The gap in living standards is bound to increase. In the past the population has not only been reduced by famine and disease but also by war. We have the power to abolish war if we have the will. But if one group of people continues to get poorer and sees its families and friends suffering great distress and unnecessary death while another group of people in the world gets richer, we are creating a situation which encourages the poor to make war on the rich.

The only long-term answer for these countries is to reduce their birth rate. But as I have explained this will take time and is not easy to achieve. What we must do in the meantime is to keep alive as many people as we can and at the same time make every effort to encourage the limitation of families.

NOTES

Words Explained:-

pangs:	sudden sharp pain.
Guardian:	an influential British newspaper.
liquorice:	black substance used in medicine and as a sweet.
carve in granite:	inscribed on stone.
food bins:	great wide-mouthed boxes or vessels for grain, coal, etc.
disaster:	great, sudden trouble.
avert:	keep off danger.
local famines:	shortages of food in limited areas.
folk-lore:	common beliefs, stories, handed down from early times.
perish:	come to death, suffer destruction
cargo:	goods transported by ships.
threat:	sign of coming danger or trouble.
gigantic:	huge.
population explosion:	sudden, unusual increase in population.
census:	numbering of persons in a country by government.
fraction:	small part.
mortality:	number of deaths; death rate.
pimples:	small hard spots caused by inflammation of skin.
blotches:	red patches on skin.
ulcer:	open sore.
depressed:	feeling unhappy, low-spirited.

massive programmes:	great, extensive programmes.
under-developed countries:	backward countries.
eking out a bare subsistence:	earning just enough to live.
power:	work, force produced by machines.
few and far between:	rare.
fluctuations:	irregular rise and fall.
abolish:	do away with.
limitation of families:	not having many children, having small families.

ANSWER THESE QUESTIONS

1. What does hunger mean on a large scale as viewed by the author?
2. Describe some great famines of the past.
3. How do famines occur?
4. What is the main reason for population increase today?
5. What is meant by birth-rate and death-rate and how do they affect the population of a country?
6. What have public-health measures to do with increase in population?
7. Account for the high birth-rate in under-developed countries.
8. Why is birth rate not so high in the more advanced countries.
9. Give a brief account of the poor economic conditions prevailing in under-developed countries.

THE JEWEL OF THE WORLD

Philip K. Hitti

It was in 750 that the Umayyad dynasty in Damascus was overthrown by the Abbasid family; and accession of the Abbasids to the caliphate was signalised by a ruthless extermination of every member of the defeated house on whom the victors could lay their hands.

Among the very few who escaped was a youth of twenty, Abd-al-Rahman, a striking young man, tall, lean, with sharp, aquiline features and red hair—a youth of exceptional nerve and ability. It was he who made his way to Spain, fought his way to mastery, and kept in power there the Umayyad dynasty which was wiped out in the East.

The story of his escape is dramatic. He was in a Bedouin camp on the left bank of the Euphrates River one day when horsemen carrying the black standards of the Abbasids suddenly appeared. With his thirteen-year old brother, Abd-al-Rahman dashed into the river. The younger brother, evidently a poor swimmer, became frightened, heeded the reassurances shouted from the bank that he would be unharmed if he returned; and swam back. He was killed. The older boy kept on and gained the opposite bank.

Afoot, friendless and penniless, he set out south-westward, made his way after great hardships to Palestine, found one friend there and set off again toward the west. In North Africa he barely escaped assassination at the hands of the governor of the province. Wandering from tribe to tribe, always pursued by the spies of the new dynasty, he finally reached Ceuta, five years later. He was a grandson of the tenth caliph of Damascus, and his maternal uncles were Berbers from that district of North Africa. They offered him refuge.

In the south of Spain, across the strait from Ceuta, were stationed Syrian troops from Damascus. He made his way to them and they accepted him as leader. One southern city after another opened its gates to him. It took him some years more to bring all of Spain to subjection, but he persisted. The Abbasid caliph in Baghdad appointed a governor of Spain to contest his rule; two years later that caliph received a gift from Abd-al-Rahman: the head of his governor, preserved in salt and camphor and wrapped in a black flag and in the letter of appointment. "Thanks be to Allah for having placed the sea between us and such a foe!" was the caliph's fervent rejoinder.

In the process of subduing his adversaries Abd-al-Rahman developed a well-disciplined, highly trained army of 40,000 or more Berbers. He knew how to keep their favour by generous pay. In 773, he discontinued the Friday sermon hitherto delivered in the name of the Abbasid caliph, but did not assume the caliph's title himself. He and his successors down to Abd-al-Rahman III contented themselves with the title "amir". Under Abd-al-Rahman I, Spain had thus been the first province to shake off the authority of the recognised caliph in Islam.

With his realm consolidated, Abd-al-Rahman turned to the arts of peace, in which he showed himself as great as in the art of war. He beautified the cities of his domain, built an aqueduct for the supply of pure water to the capital, ordered the construction of a wall round it and erected for himself a palace and garden outside Cordova in imitation of the palace built by an ancestor in north-eastern Syria. To his villa he brought water and introduced exotic plants, such as peaches and pomegranates. To a lonely palm-tree in his garden said to be the first imported from Syria, he addressed some tender verses of his own composition.

Two years before his death in 788 Abd-al-Rahman founded the great Mosque of Cordova as a rival to the two mosques of Islam in Jerusalem and Makkah. Completed and enlarged by his successors, it soon became the shrine of western Islam. With its forest of stately columns and its spacious outer court, this noble structure, transformed into a Christian cathedral in 1236, has survived to the present day under the popular name "La Mezquita," the mosque. Besides the great mosque the capital could already boast a bridge, over the Guadalquivir (corrupted from an Arabic name meaning "the great river"), later enlarged to seventeen arches. Nor were the interests of the founder of the Umayyad regime limited to the material welfare of his people. In more than one sense he initiated the intellectual movement which made Islamic Spain from the ninth to the eleventh centuries one of the two centres of world culture.

Caliph Abd-al-Rahman's court was one of the most glorious in all Europe. It received envoys from the Byzantine emperor as well as from the monarchs of Germany, Italy and France. Its seat, Cordova, with half a million inhabitants, seven hundred mosques and three hundred public baths, yielded in magnificence only to Baghdad and Constantinople. The royal palace, named al-Zahra, with four hundred rooms and apartments housing thousands of slaves and guards, stood northwest of the town overlooking the Guadalquivir River. Abd-al-Rahman started its construction in 836. Marble was brought from Numidia and Carthage; columns as well as basins with golden statues were imported or received as presents from Constantinople; and 10,000 workmen with 1,500 beasts of burden laboured on it for a score of years. Enlarged and beautified by later caliphs, al-Zahra became the nucleus of a royal suburb whose remains, partly excavated in and after 1910, can still be seen.

In al-Zahra the caliph surrounded himself with a bodyguard of "Slaves" which numbered 3,750 and headed his standing army of a hundred thousand men. With their aid the caliph not only kept treason and brigandage in check but reduced the influence of the old Arab aristocracy.Commerce and agriculture flourished and the sources of income for the state were multiplied. The royal revenue amounted to 6,245,000 dinars, a third of which sufficed for the army and a third for public works, while the balance was placed in reserved. Never before was Cordova so prosperous, Andalusia so rich and the state so triumphant. All this was achieved through the genius of one man. He died at the ripe age of seventy-three. And he left a statement, we are told, which said that he had known only fourteen days of happiness.

As always, under any dynasty, sovereignty in the Muslim world, West or East, was unstable. In Spain the Umayyad dynasty kept the nominal rule from the time Abd-al-Rahman I imposed it; but by the time of the ascension of the next outstanding figure in the dynasty, Abd-al-Raħman III, in the year 912, civil disturbances and tribal revolts had reduced the Muslim state of Spain to the city of Cordova and its neighbourhood.

The third Abd-al-Rahman, like his illustrious predecessor, was a young man when he took office, being only twenty-three: and like him also was a youth of intelligence and determination. One by one he reconquered the lost provinces, reduced them to order and administered them with sagacity and ability. His reign lasted for fifty years, from 912 to 961 an exceptionally long time for that day; it was signalised, politically, by the proclamation by the amir of himself as caliph. With him the Umayyad caliphate in Spain begins. His reign and that of his two immediate successors mark the height of Muslim rule in the West. In this period, roughly the tenth century, the Umayyad capital of Cordova took its place as the most cultured city in Europe and, with Constantinople and Baghdad, as one of the three cultural centres of the world. With its one hundred and thirteen thousand homes, twenty-one suburbs, seventy libraries and numerous bookshops, mosques and palaces it acquired international fame and inspired awe and admiration in the hearts of travellers. It enjoyed miles of paved streets illuminated by lights from the bordering houses, whereas "seven hundred years after this time there was not so much as one public lamp in London," and "in Paris, centuries subsequently, whoever stepped over his threshold on a rainy day stepped up to his ankles in mud." Whenever the rulers of Leon, Navarre or Barcelona needed a surgeon, an architect, a master singer, or a dress-maker, it was to Cordova that they applied. The fame of the Muslim capital penetrated to distant Germany, where a Saxon nun styled it "the jewel of the world".

Spain under the caliphate was one of the wealthiest and most thickly populated lands of Europe. The capital boasted some thirteen thousand weavers and a flourishing leather industry. From Spain the art of tanning and embossing leather was carried to Morocco and from these two lands it was brought to France and England, as the word morocco indicates. Wool and silk were woven not only in Cordova but in Malaga, Almeria and other centres. The raising of silk worms, originally a monopoly of the Chinese, was introduced by Muslims into Spain, where it thrived. Almeria also produced glassware and brass work. Paterna in Valencia was the home of pottery. Jaen and Algarve were noted for their mines of gold and silver, Cordova for its iron and lead and Malaga for its rubies. Toledo, like Damascus, was famous all over the world for its swords. The art of inlaying steel and other metals with gold and silver and decorating them with flower patterns, an art introduced from Damascus, flourished in several Spanish and other European centres.

The Spanish Arabs introduced agricultural methods practised in Western Asia. They dug canals, cultivated grapes and introduced, among other plants and fruits, rice, apricots, peaches, pomegranates, oranges, sugar-cane, cotton and saffron. The south-eastern plains of the peninsula, especially favoured by climate and soil, developed important centres of rural and urban activity. Here wheat and other grains, as well as olives and other fruits, were raised by a peasantry who worked the soil on shares with the owners.

This agricultural development was one of the glories of Muslim Spain and one of the Arabs' lasting gifts to the land, for Spanish gardens have preserved to this day a "Moorish" character. One of the best-known gardens is the Generalife—a word which comes from the Arabic, Jannat al'-arif, "the inspector's paradise." This garden, "proverbial for its extensive shades, falling waters and soft breeze," was in the form of an amphitheatre and irrigated by streams which, after forming numerous cascades, lost themselves among the flowers, shrubs and trees represented today by a few gigantic cypresses and myrtles.

The industrial and agricultural products of Muslim Spain were more than sufficient for domestic consumption. Seville, one of the greatest of its river ports, exported cotton, olives and oil. The exports of Malaga and Jaen included saffron, figs, marble and sugar. Through Alexandria and Constantinople, Spanish products found markets as far away as India and Central Asia. Especially active was the trade with Damascus, Baghdad and Makkah. The international nautical vocabulary of the modern world contains not a few words which testify to the former Arab supremacy on the seas—admiral, arsenal, average, cable.

The government maintained a regular postal service. It modelled its coinage on Eastern patterns, with the dinar as the gold unit and the dirham as the silver unit. Arab money was in use in the Christian kingdoms of the north, which for nearly four hundred years had no coinage other than Arabic or French

The real glory of this period, however, lies in fields other than political. Al-Hakam, Abd-al-Rahman's successor, was himself a scholar and patronised learning. He was generous to scholars and established twenty-seven free schools in the capital. Under him the University of Cordova, founded in the principal mosque by Abd-al-Rahman III, rose to a place of preeminence among the educational institutions of the world. It preceded both al-Azhar at Cairo and the Nizamiyah of Baghdad, and attracted students, Christian and Muslim, not only from Spain but from other parts of Europe, Africa and Asia. Al-Hakam enlarged the mosque which housed the university, conducted water to it in lead pipes and decorated it with mosaics brought by Byzantine artists. He invited professors from the East to the university and set aside endowments for their salaries.

In addition to the university, the capital housed a library of first magnitude. Al-Hakam was a lover of books; his agents ransacked the bookshops of Alexandria, Damascus and Baghdad with a view to buying or copying manuscripts. The books thus gathered are said to have numbered 400,000, their titles filling a catalogue of forty-four volumes, in each one of which twenty sheets were devoted to poetical works alone. Al-Hakam, probably the best scholar among Muslim caliphs, personally used several of these works; his notes on certain manuscripts rendered them highly prized by later collectors. In order to secure the first copy of the "Aghani," which Al-Isbahani, a descendant of the Umayyads, was then composing in Iraq, Al-Hakam sent the author a thousand dinars. The general state of culture in Andalusia reached such a high level at this time that the distinguished Dutch scholar Dozy went so far as to declare enthusiastically that "nearly everyone could read and write."[5] All this when in Christian Europe only the rudiments of learning were known, and that chiefly by a few churchmen.

NOTES

Words Explained:-

extermination:	destruction of all.
nerve:	quality of facing danger well.
aquiline:	like an eagle, hooked nosed.
heed:	give attention to.
refuge:	place of shelter from danger or trouble.
assassination:	putting to death violently.
contest:	dispute with arms.
consolidate:	make position strong.
aqueduct:	structure for taking water from one place to another.
exotic:	coming from another country.
forest:	here, large number of pillars.
transform:	change, make great changes in.
initiate:	get started; introduce.
nucleus:	middle.
excavate:	dig out, get old buildings free from earth covering it.
sagacity:	wisdom.
proclamation:	making public.
penetrate:	pass through, here it means, rach.
thrive:	do well, quick in growth, prosper.
emboss:	make pictures of, or on, in relief.
Valencia:	a province of East Spain.
proverbial:	here, well known.
amphitheatre:	circular building with seats rising behind and above each other, round and central, open space

nautical:	of ships, seamen.
average:	here it has been used in the sense of duty upon goods.
al-Azhar:	a university at Cairo in Egypt.
endowment:	act of giving property producing regular income especially to organisations.
magnitude:	size, degree of being important.
manuscripts:	books written by hand, not printed.
Aghani:	a book on music.
rudiments:	first steps or stages in some branch of knowledge.

ANSWER THESE QUESTIONS

1. Give an account of the early career of Abd-al-Rahman I, his dramatic escape and his adventures in Africa.
2. How did Abd-al-Rahman deal with the governor appointed by the Abbasid caliph to contest his rule?
3. What did the Abbasid caliph say on receiving the head of his governor?
4. What did Abd-al-Rahman do to make himself strong and to beautify his capital?
5. Give an account of the all-round progress made by the Arabs under Abd-al-Rahman III.
6. What did Al-Hakam do to promote learning and scholarship in his kingdom?

PART II

FIRST YEAR AT HARROW

Sir Winston S. Churchill

I had scarcely passed my twelfth birthday when I entered the inhospitable regions of examinations, through which for the next seven years I was destined to journey. These examinations were a great trial to me. The subjects which were dearest to the examiners were almost invariably those I fancied least. I would have liked to have been examined in history, poetry and writing essays. The examiners, on the other hand, were partial to Latin and mathematics. And their will prevailed. Moreover, the questions which they asked on both these subjects were almost invariably those to which I was unable to suggest a satisfactory answer. I should have liked to be asked to say what I knew. They always tried to ask what I did not know. When I would have willingly displayed my knowledge, they sought to expose my ignorance. This sort of treatment had only one result; I did not do well in examinations.

This was especially true of my Entrance Examination to Harrow. The Headmaster, Mr.Welldon, however, took a broad-minded view of my Latin prose: he showed discernment in judging my general ability. This was the more remarkable, because I was found unable to answer a single question in the Latin paper. I wrote my name at the top of the page. I wrote down the number of the question 'I'. After much reflection I put a bracket round it thus '(I)'. But thereafter I could not think of anything connected with it that was either relevant or true. Incidentally there arrived from nowhere in particular a blot and several smudges. I gazed for two whole hours at this sad spectacle: and then merciful ushers collected my piece of foolscap with all the others and carried it up to the Headmaster's table. It was from these slender indications of scholarship that Mr.Welldon drew the conclusion that I was worthy to pass into Harrow. It is very much to his credit. It showed that he was a man capable of looking beneath the surface of things: a man not dependent upon paper manifestations. I have always had the greatest regard for him.

In consequence of his decision, I was in due course placed in the third, or lowest, division of the Fourth, or bottom, Form. The names of the new boys were printed in the School List in alphabetical order and as my correct name, Spencer-Churchill, began with an 'S', I gained no more advantage from the alphabet than from the wider sphere of letters. I was in fact only two from the bottom of the whole school; and these two, I regret to say, disappeared almost immediately through illness or some other cause.

I continued in this unpretentious situation for nearly a year. However, by being so long in the lowest form I gained an immense advantage over the cleverer boys. They all went on to learn Latin and Greek and splendid things like that. But I was taught English. We were considered such dunces that we could learn only English. Mr. Somervell–a most delightful man, to whom my debt is great–was charged with the duty of teaching the stupidest boys the most disregarded thing–namely, to write mere English. He knew how to do it. He taught it as no one else has ever taught it. Not only did we learn English parsing thoroughly, but we also practised continually English analysis. Mr. Somervell had a system of his own. He took a fairly long sentence and broke it up into its components by means of black, red, blue and green inks: Subject, Verb, Object, Relative Clauses, Conditional Clauses, Conjunctive and Disjunctive Clauses! Each had its colour and its bracket. It was a kind of drill. We did it almost daily. As I remained in the Third three times as long as anyone else, I had three times as much of it. I learned it thoroughly. Thus I got into my bones the essential structure of the ordinary British sentence–which is a noble thing. And when in after years my school-fellows who had won prizes and distinction for writing such beautiful Latin poetry and pithy Greek epigrams had to come down again to common English, to earn their living or make their way, I did not feel myself at any disadvantage. Naturally I am biased in favour of boys learning English. I would make them all learn English: and then I would let the clever ones learn Latin as an honour, and Greek as a treat. But the only thing I would whip them for is not knowing English. I would whip them hard for that.

NOTES

Words Explained:-

inhospitable:	uninviting.
invariably:	always.
fancied:	liked.
partial:	had a taste for.
display:	make a show of.
expose:	let light on, bring to view.
broad-minded:	liberal.
discernment:	understanding.
reflection:	thought.
relevant:	to the point.
smudge:	dirty mark.
usher:	door-keeper.
slender:	thin, small, poor.
unpretentious:	unassuming.
dunce:	fool.
components:	forming parts of something.

structure:	form.
pithy:	short, keeping to the point, full of force.
epigrams:	short, pointed sayings.
bias:	have a tendency to favour.
treat:	thing that gives great pleasure.

ANSWER THESE QUESTIONS

1. The writer says the examiners ask questions which students cannot answer and not those which they can answer. Is the complaint just?
2. What sort of questions are asked by your examiners?
3. Why did not Churchill do well in examinations?
4. How did he do his Latin paper?
5. Churchill was taught English at Harrow and not Latin and Greek. Was it a gain or loss?
6. What good did his three years stay at Harrow do him?
7. In after years how did the knowledge of English stand him in good stead?
8. Write an appreciation or criticism of Churchill's views in regard to the study of Latin, Greek and English and their value in earning a living.

HITCH-HIKING ACROSS THE SAHARA

G.F.Lamb

If a giant were to pick England up and put it down in the middle of the Sahara desert, we should have quite a task to find it. The full Sahara area, stretching almost the complete width of North Africa, is many times the size of Great Britain.

About half of this gigantic area is mainly under French control. Very recently indeed, the discovery of oil beneath the sand has begun to bring changes: but less than three years ago most of the area had for countless years consisted of immense stretches of barren sand, intensely hot during the day, with few water wells and little vegetation. Large parts were almost uninhabited. In other parts there were just a few towns very widely scattered, and occasional wandering tribes of Arabs or Berbers.

Hardly the land, one would think, in which to go hitch-hiking. Yet this was just the mode of travel that Robert Christopher, a young American, decided to adopt in the Sahara crossing which he began in 1956.

When he was a child, every time he was naughty, his fostermother used to threaten to send him to Timbuktu (an ancient city in the heart of French Africa). Instead of alarming him, the idea aroused in him a keen desire to see this distant place.

By the time he was a young man he was firmly gripped by the wanderlust. His first adventure was to go round the world at the cost of eighty dollars (about £ 28). After this, he determined that his next journey should be to travel right across the Sahara from Algeirs, on the north coast of Africa, to Timbuktu, which is near the river Niger in the extreme south of the great desert.

The trans-Sahara journey began at a little town, Boussaada, known to the natives as the "Port of the Sahara," for it is here that the desert really starts. Christopher discovered that a desert truck was leaving for the south shortly, and he arranged with the driver to be given a lift as far as it went.

The conditions were agonising. Three men – driver, greaser, and passenger – sat side by side in the front seat, travelling at a bare 32 kilometres an hour, while the temperature rose steadily. In two hours a flask of cold water became hot enough to make tea.

Presently a fast-moving weapons' carrier overtook them. Christopher stopped it and begged the lieutenant in charge to relieve him from the misery of slowly baking to death at twenty miles an hour. The lieutenant pointed out that strict military regulations forbade the carrying of civilians. Christopher replied by producing a permit from the War Ministry giving him permission to join the French Foreign Legion for a short period in order to collect material for an article. The permission had later been withdrawn, but fortunately the lieutenant did not turn the paper over and see the "cancelled" stamp.

He was dropped at the town of Ghardaia, a typical desert city, except that the flies are even more numerous and stickier than they are anywhere else.

"Anything that has the remotest relationship with food," Christopher states, "is constantly and completely covered with flies...... They have no hesitation in following the food right into your mouth, and I had to be vigilant until each mouthful was safely behind my teeth. I saw many children on the streets, but I got only a vague idea of what they looked like, for they all wore a mask of flies."

He was able to continue his hitch-hike to the south in the leisurely manner that was so typical of the desert. On the day of his arrival he discovered that there was a truck due to leave at once for El Golea. This truck was a new and powerful one, and carried all kinds of goods—pins and needles, sewing-machines, pots and pans, machine parts. It weighed ten tons.

For about ten miles outside the town the road continued. Then it stopped. The route lay across an apparently trackless desert. None the less, the driver (named Hantout) picked his way with uncanny skill.

It was difficult travelling. At times the sand became too soft to bear the weight of the heavy truck. It was then necessary to stop at once. If the wheels had been allowed to spin they would have dug themselves deeper. Ten-foot strips of steel mesh were dragged from the truck and placed together to make a runway for the wheels to bite on as the truck moved. When it reached harder ground the strips were collected up and dragged forward to the waiting truck. Christopher performed useful service in helping the greaser with this arduous operation.

The driver added to the discomfort of the journey by relating details of a recent case in which three English people had attempted to cross a part of the desert in a car with only one day's water-supply. Their car had become stuck in a sand dune, and three days later their bodies were found dried up like leaves. They had drained the radiator in their desperate thirst, and one of them tried to drain the oil from the crankcase. Hantout had been one of the search party, and he spared his listener none of the grim details.

The story came vividly to Christopher's mind on the second morning. The greaser announced that one of the two goatskin bags of water had burst during the night. Even if every thing went well, the rest of the journey would not be pleasant.

An outpost with a water-supply was found on one of Christopher's maps, and they set off towards it. By dawn they had gone fifty miles and dug out of five more sand dunes. Christopher was sick with thirst; and to add to his misery he had jumped bare-footed from the driver's cabin on one occasion, not realising the intense heat of the sand. It was as if he had jumped into a bed of hot coals. With a scream of pain he hopped back into the truck.

Meanwhile, his thirst grew fiercer.

"Everything was dead and dry and hot. . . . .My mind was foggy. I was on fire, the inside of my head felt dried up, and my lungs hurt from the hot air . . . . . . There were times when I tried to make myself faint, but my head was pounding with such pain that it kept me conscious."

The outpost was discovered at last and it contained a well full of cool water. They drank until they could drink no more.

They certainly needed it. The heat was incredible. In the shade of the mud house the temperature reached 130°F, while out on the sand the thermometer registered 165°F, which is nearly thirty degrees higher than the highest temperature officially recorded.

EI Golea, a hundred miles on, was reached without further mishap. It was a fascinating little town, a true oasis, with so much water available that they hardly knew what to do with it. Every day of the week that he was there Christopher spent hours bathing in a little pool half a kilometres from the centre of the town, shaded by palm-trees and fruit-trees, or lying on the cool grass beside the pool, watching the birds feasting on the dates. What a contrast from the desert all around it!

The journey from El Golea to In Salah was not without its excitements. It was made in a heavy truck carrying ten tonnes of ammunition, driven by a particularly able and experienced his way across the apparently trackless desert was a source of constant amazement to Christopher

During the next day Christopher suffered one of his worst experiences. Bahemed assured him that it would be a good thing to mix a little wine with his water. Christopher was doubtful, but he risked it.

The result was disastrous. During the heat of the day they were lying in the shade of the truck, the two Arabians asleep. Wanting something from the driver's cabin, he got up to get it. As he was climbing up he was suddenly overcome by a strange sickness. His head started to pound, and he found himself shivering violently. He knew he was going to collapse, so he made a desperate effort to avoid the blazing sand. His fall as he blacked out, fortunately, woke the other two, and they dragged him completely into the shade.

For an hour he could not speak. His two companions took off their turbans and poured water on them, using them to rub his body gently in order to keep his temperature down. When he recovered his senses they gave him as much water as he could drink.

The quality of the water is not the only respect in which In Salah differs from El Golea. The latter town, with its shady swimming-pools and its luxuriant trees and plants, has triumphed over the barrenness of the desert. In Salah is fighting a desperate battle for survival, and perhaps losing the contest. The sand is constantly encroaching on the town.

"Parts of the town are being swallowed by the desert. It is a frightening thing to see. Man has tried by every means to hold it back, but in spite of his efforts, the desert keeps tightening its strangle-hold. Palm-trees that once lifted their branches high above the dunes are now like bushes, and some of them are completely covered. I bent down and picked dates off some of them. Many people have had to leave their homes. Storm fences do little, if any, good."

A truck was leaving shortly—a big, dirty, clumsy-looking oil-truck. This time the driver and greaser seemed reluctant to take him. Although they finally agreed, they did their best to go without him. It turned out that they believed him to be a French-man, and they disliked the French. When they found that he was American they became friendly at once.

It was unbearably stifling in the driver's cabin. Christopher was completely overcome at one point, and when a midday stop was made at a little mud-building outpost, he staggered inside, to the astonishment of the French officer quartered there, and lay down on the floor to be ill. Fortunately, he had recovered by the evening, and was able to continue the truck journey.

Tamanrasset was reached at last; and here Christopher made one of his most valuable contacts. This was Professor Claude Balanguernon, a remarkable Frenchman who has devoted himself to helping the Tuareg people. He succeeded in convincing them that education would be useful to them. Then most wisely, he adapted himself to their habits and customs, so that he could help them to get the most from their own natural way of life, rather than persuade them to adopt Western habits unsuited to their land and traditions.

Balanguernon acted as Christopher's guide, host, and friend while he was in Tamanrasset. With his assistance Christopher was able to spend a week in the encampment of the

Tuareg Amenokal (King), an experience which he found fascinating. The Tuaregs, though their life is primitive, are a people of great dignity, extreme honesty, high intelligence, and with quite an ancient history. In preparation for this visit Christopher learnt to ride a camel, a task which he found more difficult than it looks. During his first lesson he was thrown over the animal's head three times, and once over its rear.

It was on this formidable type of transport that he was to continue his Sahara journey. There were no more trucks.

Balanguernon arranged for one of his most educated pupils, a young Tuareg noble named Boubaker, to act as guide for the first few days of the 1280 kilometres journey from Tamanrasset to Timbuktu. The start was made at dawn, Boubaker and Christopher each on a camel, with a third carrying Christopher's supplies. It would probably be two or three weeks before the next village was reached, so it was essential for him to take enough food and drink to last that time. Out in the burning desert there are no villages to turn to if food runs short.

The most difficult and dangerous stage of the journey now had to be endured. It began when Christopher was handed over by the leader of a big caravan to a small group who were willing to go to Kidal, about 560 kilometres from Timbuktu. The little party, two Tuaregs, a slave, and Christopher, began by setting out to find a well which was on their route, in order to replenish their water-bags. They reached it at last and it was bone-dry.

There was only one tin of food left in Christopher's pack, and the four of them shared the beans it contained. His guides carried no food at all, and very little water. By the time darkness came, Christopher's water-supply was down to one-litre. At this point twenty large vultures were discovered, and these stood watching the travellers with interest "making up their minds whether they wanted white or dark meat for the meal they were sure they would soon be eating."

The vultures were to be disappointed. The four men went to sleep early–a desert custom when travellers are hungry or thirsty–and next morning were still alive. They had just enough water left to make one cup of tea each and then set off for the next waterhole, about five hours distant.

When they reached it, just before the hottest part of the day, they found that this too, like the previous hole, was completely dry. The next waterhole was two days away and the travellers now had neither food nor water.

The future looked grim.

There was just one chance of survival. One of the six camels could be killed. The decision was made–Christopher being asked to pay his share of the cost, to which he willingly agreed. Strangely enough, as soon as a camel was picked for the slaughter it seemed to know what was to happen and started screaming at the top of its voice.

When the victim was killed, the liquid in its stomach was caught in a water-bag by the slave. It would be hard to think of a less appetising drink than the greenish fluid, like thin blood, produced from this source. Even the Tuaregs made faces as they drank it. Christopher could not tackle it, parched though he was, until he had boiled it: and even then he had to hold his nose while he drank it. Somehow he got it down. Together with the camel's flesh, the unappetising liquid kept them going for another two days.

The region through which they were passing was known as the Land of Thirst and Death, and the name was well chosen. It was an area notorious for sandstorms as well as for dried-up waterholes. Christopher soon experienced one of them. Shortly after the midday stop on the following day, the camels all instinctively turned off their course to the right, making for the nearest depression in the waste of sand. The reason presently became clear to Christopher as he gazed at the horizon.

"It was incredible. The dunes seemed to be on fire, the peaks were melting away and the whole horizon was changing shape. Then as it started to get dark I heard a sound like wind blowing through the leaves of a tree."

His companions made signs for him to hide himself behind his camel and cover his head. He did so, but the force of the storm when it struck was too great to be avoided. "Even with the camel's body as a shield, I could feel the impact of the wall of sand that came streaming along the earth. The wind found even the smallest opening in my clothes, and the sand felt like little needles."

There was nothing he could do but crouch down waiting for the storm to finish, while the sand steadily piled up on top of him. He found himself recalling a true story that just such a sandstorm, many years earlier, had completely buried a huge caravan of 1200 camels without leaving a trace of them.

The present storm fortunately was less drastic, and lasted only half an hour. But they all had seventy five millimetres of sand completely covering them; and it did not need much imagination to understand how a party could easily be buried and suffocated

Kidal was the last town on his route before Timbuktu itself; but there were still over 450 kilometres of grim desert to be crossed. This proved to be the loneliest and most arduous stage of the whole desert crossing.

The stress of desert travel had affected him physically. His hand had become so cracked that he could hardly use his camera. To add to his troubles, he took his camel one day across a huge slab of rock on a slight incline. Then he realised that it was covered with tiny stones. His camel fell heavily, knocking him off its back; and though it was not really injured, it was so shocked and frightened that he could not ride it for some time, but had to follow it on foot.

Another little incident served as a reminder that the desert has many ways of destroying its victims. Christopher was helping to gather stones to place in the fire, for the kettle or pan to stand on. He picked up one large rock to find a four-foot snake coiled under it. It uncoiled rapidly and struck, but he managed to jump back just in time to avoid the deadly fangs. The guide's slave killed it with a stone, indicating by gestures that it was a very poisonous specimen.

A day later he caught his first glimpse of Timbuktu. He had reached his goal at last and his journey had taken him across 3200 kilometres of desert.

This was the end of his main journey; but it was by no means the end of his adventures. The stay in Timbuktu had enabled him to recover some of the weight he had lost in the desert, and he was beginning to feel fit and well. He experienced a curious longing to see some more of the strange and mighty desert before leaving the country, perhaps for good.

A sudden decision was made. He sent a telegram to Professor Claude Balanguernon in Tamanrasset, and then flew rapidly eastward by plane, partly across the Land of Thirst and Death across which he had so painfully toiled. From Agades he travelled north to meet Balanguernon, partly in a hired jeep with a French Lieutenant, partly by camel.

The arrangement was that the Professor would drive south in his jeep from Tamanrasset to a well at In Abbangarit, where Christopher would wait for him. If Christopher had not after all reached it by the appointed day, then Balanguernon would continue south on the primitive road towards Agades.

Unfortunately the caravan with which Christopher was travelling insisted on making a lengthy detour to water their camels at a well, some distance from the road. The American insisted on getting back to the road again as soon as possible, expressing himself vigorously to the leader by signs as they could not speak each other's language. But by the time they got back to the road two days had been lost.

The caravan presently left the route, but a boy acted as guide to lead Christopher to the well at In Abbangarit. It was reached just at nightfall, and the following morning the boy went back, leaving Christopher alone to await the arrival, as he supposed, of the Professor from the north.

There is no village at In Abbangarit. The only building is a bordj, which is a simple mud structure consisting of a roof and four walls, with one hole to serve as a window and another to serve as a door. The well is about 275 metres away

When he reached it he had a shock. There was water there all right — but it was a good 46 metres below, and there was neither rope nor bucket!

He returned to the bordj and searched his pack. The only possible container to bring up the water was a small metal teapot, which would carry about half a cupful of liquid at a time if a line was tied to the handle and the spout plugged up.

A line tied to the handle . . . . but where was the line?

Fastening together all the available bits of cord and articles of clothing he could at first make only 8 metres. On an inspiration he tore the turban he was wearing into four strips. Still the teapot reached no more than half-way down the well.

What else? His sleeping-bag? No, for it was now the winter season, which meant that the nights were bitterly cold, although the days, by normal standards, were still unbearably hot. Without a sleeping-bag or blanket he would freeze to death.

That night he lay in his sleeping-bag picturing himself dying of thirst and hunger if the Professor did not arrive in the next day or two.

He had with him a small recording machine. The notion of death suggested to him that it might be a good idea to record his last thoughts for the benefit of those who found his body. The set was battery-operated, with thin wire as the recording medium.

Wire!

It dawned on him suddenly that here was the 'rope' he needed to reach the water in the well. The wire was very thin, little thicker than a human hair, but it was about 305 metres long. By putting several strands together it should be possible to make a line strong enough to bear the weight of a small teapot half-full of water.

The scheme worked. Seven strands of wire, laboriously twisted together, just reached comfortably to water-level in the well.

The liquid brought up in the teapot was not particularly inviting—it was like a mixture of mud and sulphur—but it was drinkable, and it would save him from dying of thirst. He spent the whole morning drawing up potful after potful, and was able to collect five, 23 litres to take back to the bordj.

The following evening as he sat outside the bordj, staring only half-consciously at the horizon, he noticed a small sandstorm blowing vaguely in his direction. Could it be the dust raised by a car? No, there was too much of it for that.

There was indeed too much dust to be raised by a small jeep; but it was a rescue party none the less. Two big Desert Patrol cars came roaring up to the bordj; and Death reluctantly departed.

Claude Balanguernon and a friend arrived a few hours later in the jeep. What had happened was that they had missed meeting Christopher during the unfortunate two-day detour. They had later been misdirected by a native who thought Christopher had returned to Agades. When they reached Agades and discovered the native's error, Balanguernon realised that Christopher must have missed them on the road, and that he was probably waiting at In Abbangarit, short of food. He very sensibly got in touch with the Desert Patrol and they sent out four trucks to cover the desert north from Agades, and in particular to visit In Abbangarit.

His foresight saved Christopher's life, and enabled the hitch-hiking journey across the Sahara to end in a return to the Hoggar region instead of in a sandy grave in the heart of the desert.

NOTES

Words Explained:-

quite a task to find:	hard to find.
gripped. . . wanderlust:	overcome by the eager desire for travelling.
trans-Sahara journey:	across the Sahara.
give a lift:	take one up into vehicle for part of way.

forbade:	commanded a person not to do or go.
uneventful:	in which nothing worth mentioning happened.
vigilant:	watchful, careful.
arduous:	hard.
uncanny:	strange.
runway:	specially prepared surface in airfield for planes to take off from land.
wheels to bite on:	to take hold of.
desperate:	violent.
grim details:	details causing great pain, shocking.
make . . . . faint:	become unconscious.
pounding:	thumping, beating.
Incredible:	hard to believe.
oasis:	fertile place with water in waste of sand.
notoriously bad:	much talked about for bad qualities.
excitements:	things which set one in motion or rouse up.
disastrous:	causing great sudden trouble feeling.
collapse:	breakdown.
sickness:	feel like vomiting.
blazing sand:	hot shining sand.
desert-strangle hold:	desert strengthening its grip on the city
triumph:	overcome.
luxuriant trees:	strong in growth.
desperate battle for survival:	fighting hard to live and not to die.
clumsy-looking:	badly made, awkward in shape.
reluctant:	not ready to, unwilling.
it turned out:	it was found.

stagger:	go with, take certain steps as if about to have a fall.
formidable:	very strong, impressive.
adapt himself . . . . customs:	began to follow their customs.
unsuited . . . . traditions:	not in accordance with their way of life.
fascinating:	charming.
primitive:	their life is of an early simple sort, undeveloped.
detour:	by a roundabout way.
grim:	severe, full of danger.
parched:	dry for want of drink.
instinctively:	by a natural impulse.
crouch:	bend body low in fear.
less drastic:	less strong in effect.
stress-travel:	hardships of the travel.
victim:	persons, animals put to death as offering to a god, here persons who suffered at the hands of the desert.
inspiration:	sudden bright idea.
pack:	parcel made to be taken on back of man or animal.
plugged up:	something used for stopping hole, get stopped with plug.
line:	string.
inviting:	pleasant, which one would like to drink.
mirage:	effect giving seeming existence to water or trees in a sand waste.
illusion:	the seeing of a thing when it is not present.

winking:	get one's eye or eyes open and shut quickly.
foresight	power of judging about the future.

ANSWER THESE QUESTIONS

1. Give an idea of the size of the Sahara. How does it compare with England?
2. What had Christopher's fostermother to do with his desire to see distant places?
3. How did he manage to get a seat in the weapons, carrier ?
4. What was the most noticeable, feature of the desert city, named Ghardaia?
5. How did they manage to drive the heavy truck in the trackless desert with its soft sand?
6. What did the driver of the truck tell Christopher about three Englishmen who had attempted to cross the desert?
7. Give an account of the little town, named El Golea, and compare it with In Salah, bringing out the difference between the two.
8. What do you know of Professor Claude Balanguernon? How did he save the hero's life towards the end of hitch-hike?
9. Describe the events leading to the killing of a camel. What sort of water did they get from its stomach?
10. Describe the journey through the land of Thirst and Death.
11. Describe the stay at In Abbangarit. How did Christopher manage to get water there?

SIR ALEXANDER FLEMING

Patrick Pringle

Pasteur discovered germs, and Lister killed them. These two men together revolutionized the theory and practice of medicine.

Louis Pasteur, a French chemist, discovered that disease was caused by living organisms so small that they could not be seen with the naked eye—micro-organisms, or microbes, or bacteria, or germs; the words all mean the same thing. Joseph Lister, an English surgeon—later Lord Lister, the first medical peer—applied Pasteur's discovery to surgery.

Since germs are alive, germs can be killed. They can be destroyed by heat or poisoned by certain chemicals, called antiseptics; carbolic acid is one, and that was the germ-killer Lister used. Previously surgeons had, without knowing it, infected their patients on the operating-table with germs, chiefly from their surgical instruments. Lister sterilized his instruments with carbolic acid, and used carbolic acid to kill the germs on his hands, on the patient's skin, and even in the air in the operating-theatre. Then he could cut his patients open without fear of infecting them with the germs of disease.

Lister's aim was the prevention of disease. The object of his antiseptic method, as it was called, was to stop germs from getting into the body. The cure of disease was a more difficult problem, for here the germs were already inside the body. Certainly they could be killed by the same antiseptic method: but it was soon found that a chemical that destroyed germs also destroyed the cells of the body. Injecting carbolic acid into the blood was tried, and quickly abandoned for it did more harm than good. To kill all the germs the dose would have had to be strong enough to kill the patient, too.

It was a bacteriologist named Metchnikoff, a pupil of Pasteur who revealed the true nature of the problem. He discovered the body's natural armour against disease—the leucocytes, or white cells of the blood. He showed that when germs enter the body they are immediately attacked by hosts of white cells from the whole neighbourhood, which rush to join battle with the invader like soldiers answering a bugle-call. He showed that disease was, in fact, a fight between the leucocytes and the germs—and a fight to the death, for it ended only with the death of the germs or the death of the patient.

Carbolic acid and all the other known antiseptics did more damage to the leucocytes than to the germs. The problem was to find something that would attack only the germs, and to help, not destroy, the fighting leucocytes.

The problem was still unsolved in 1906, when Alexander Fleming passed the finals of his medical examination and joined the staff of the Inoculation Department of St. Mary's Hospital, Paddington.

Alexander Fleming was born on a farm near Darvel, in Ayrshire, on August 6, 1881. He was the youngest of a family of eight. His father died when he was seven years old, and his eldest brother, Hugh, took over the management of the farm. Alexander was then still going to the village school. At ten he went to Darvel School, and stayed till he was twelve. That was the age-limit. The question was then discussed whether he should continue his education or go back to the land. It was decided to keep him at school, and he went to Kilmarnock Academy. At fourteen he went to London, and for the next two years he studied at the Regent Street Polytechnic.

Three of his brothers were already in London when he arrived. One of them, Thomas, had studied medicine at Glasgow University, and was a qualified oculist. Two others became opticians. And back in Scotland one of his sisters married a Darvel doctor, and another a veterinary surgeon. The Flemings, born on the land, were becoming a medical family. But when Alexander left the Polytechnic, at sixteen, he was to take a job as a clerk in a shipping firm in Leadenhall Street. There was not enough money for him to study for a profession or trade.

Fleming worked in Leadenhall Street for four years. Then, at twenty, he received a share in a legacy. It was not large, but enough for him to train for a career with better prospects. His brother Thomas was then in Harley Street; and according to Fleming himself, "My brother Thomas pushed me into medicine."

There were twelve medical schools in London, and Fleming knew nothing about any of them. He chose St. Mary's for no better reason than that he had played water-polo against the Hospital team.

For eight years Fleming worked in Wright's laboratory; for eight years he sought to find a means to aid the leucocytes in their fight against invading bacteria. Then, in 1914, he joined the R. A. M. C., and came face to face with one of the main medical problems of the First World War: the treatment of infected wounds.

By 1914 Lister's antiseptic method of surgery had been largely replaced by what was called the aseptic method. Instead of chemicals heat was used to sterilize instruments, clothing and other operating-theatre equipment. The purpose was the same, to prevent germs from getting into the wound. In peace-time this was adequate for most surgical cases; but in the treatment of war wounds prevention was not enough. In nearly every case the wound was infected before treatment could be begun. Thus the surgeon's problem was the same as that of a physician treating disease: he had to try to kill the germs without damaging the leucocytes that were already fighting against them.

There was no solution—and the problem was tremendous. For the first time in warfare high explosives were used extensively, and wounds that were not infected were rare indeed. The surgeons were unprepared. Thanks to the antiseptic and methods, infection in surgical cases had become the exception instead of the rule; now it was the other way about again. "We have in this war gone back to all the septic infections of the Middle Ages", said the Director-General of the Army Medical Service.

Medical officers treated infected wounds by the only method they knew, with chemical antiseptics. They applied carbolic acid, iodine, and other chemicals to open wounds in an attempt to destroy as many germs as possible. They could not destroy all the germs, but thought that if only some were killed it would be better than none.

Meanwhile Fleming, a medical officer himself, was still working with his old chief. Sir Almroth Wright had been made a Colonel in the Army Medical Service, and had set up a research laboratory at Boulogne. There, with the help of Fleming, he set to work to tackle the problem of *wound-infection.*

Wright and Fleming discovered that the treatment being used was doing more harm than good. Each of the chemical antiseptics was more harmful to the leucocytes than to the germs: and in some cases the antiseptic actually helped the germs to grow and multiply. And Wright and Fleming both insisted that the method was basically wrong—that the surgeon's aim should be not so much to kill the germs with an outside agent as to help the leucocytes do their natural germ-killing work.

Experiments were made with different chemicals, and one after another became fashionable and then gave way to the next. And at the end of the War, which had killed about seven million men, the problem was still unsolved.

Fleming, now thirty-seven, went back to St. Mary's and continued research. And in 1922 he discovered an antiseptic—not a chemical like carbolic acid, but a natural antiseptic manufactured by the body.

He made the discovery by what he modestly called an accident. He was suffering from catarrh, and began to examine his own nasal secretions. In these secretions he discovered a substance that destroyed microbes on the culture plate. He called it lysozyme.

Lysozyme proved to be of little practical use in the treatment of disease, but the discovery was of considerable importance: for it was the forerunner of penicillin.

Lysozyme was not a chemical but a natural antiseptic; and unlike chemical antiseptics, it destroyed germs and yet had no harmful effect on the leucocytes. It was, in fact, the first antiseptic discovered that was harmless to the cells of the body.

Penicillin was the second.

The discovery of lysozyme did not bring Fleming popular fame, but it raised his position in the world of science. The medical profession began to pay more attention to what he said: and at this time he had quite a lot to say on the subject that had occupied his mind ever since the First World War. Chemical antiseptics were fashionable again, and Fleming once more reminded doctors of the greater importance of the natural defences of the body.

In 1928 Fleming was appointed Professor of Bacteriology in the University of London and in the same year he "hit on" penicillin. The phrase is his own. "The very first stage in the discovery," he says, "was due to a stroke of good fortune." But only the first stage.

In his laboratory at St. Mary's he was carrying out a series of experiments on the common germ called staphylococcus. He was growing colonies of the germs on plates spread with agar. The plates were kept covered, but to examine them under a micro-scope he had to take the covers off. "As soon as you open a culture plate," he said afterwards, "you are asking for trouble. Things drop from the air. One of those bits of trouble happened to be penicillin. A mould spore, coming from I don't know where, dropped on the plate."

Presumably the spore of the mould, or fungus, was blown in through the window. It may have come from the larder of a forgetful Paddington housewife—for this particular mould commonly breeds on damp bread, cheese, and preserves. It grows best when the conditions are cool and damp—and the summer of 1928 was very cool and damp.

Having settled on the culture plate, the mould began to grow. And almost at once the microbes round it began to disappear.

Fleming put aside the work he was doing and began to investigate. He made a pure culture of the mould, and tried its effect on other bacteria. Some grew right up to it; others, like the staphylococci, stopped short, inhibited by its anti-bacterial action.

The next step was to produce the anti-bacterial substance free of the mould. Fleming did this by plating the mould on a meat broth. It grew on the surface as a felt-like mass, and turned the broth yellow. After a week's growth the fluid was strained through a fine filter and tested for its anti-bacterial properties. The results were as favourable as before, and Fleming knew that he had discovered another natural antiseptic with far greater possibilities than lysozyme. He called it penicillin.

Further experiments showed that, in its effects on germs like staphylococci, penicillin was about three times as strong as carbolic acid. What was far more important was that, unlike carbolic acid and all the other chemical antiseptics, it had no toxic effect at all on leucocytes. Theoretically it looked like an ideal germ-killer-the antiseptic that had been sought ever since Pasteur discovered germs. In practice there was one big obstacle: in its crude form penicillin was unstable, and it could not be used in the treatment of disease until a means was found of concentrating it.

That was a chemist's job, and Fleming was a bacteriologist. He tried to concentrate the drug, but failed. He lacked both the training and the equipment needed for the job. He published his findings, and continued to proclaim his faith in penicillin; and he kept his original culture of the mould. It can be seen today, dried up but still recognizable, in a place of honour in the Museum of the Medical School of St. Mary's Hospital.

So it seemed that penicillin was, like lysozyme, just another laboratory success. And regretfully Fleming turned to other things.

Meanwhile a fresh attempt had been begun to solve the problem of concentrating penicillin. It was made at Oxford by a team headed by Professor (now Sir Howard) Florey and Dr. E. B. Chain.

The Oxford team included trained chemists as well as bacteriologists, and had all the equipment that Fleming had lacked; yet it was a long, hard struggle before they succeeded in producing a practical concentration of penicillin. The first human cases were treated in 1941, and the problem then became a matter of production. One of the Oxford team went to America, where new methods of manufacture were discovered, and in 1943 penicillin reached the Eighth Army in Egypt. In the words of Viscount Montgomery of Alamein, "the healing of war wounds was revolutionized." Penicillin arrived just in time to save countless lives. It was easily the strongest weapon yet forged in the fight against disease.

While penicillin was being hailed as a wonder drug, the name of its discoverer was hardly known outside the medical profession. Then Sir Almroth Wright wrote a letter to The Times telling the world who had made the discovery. And Fleming became famous.

He was knighted in 1944, and awarded the Nobel Prize for Medicine in 1945. Governments and universities all over the world showered him with honours. He had to travel widely, attend functions, make speeches, received thanks—often personal expressions of gratitude from people who owed their lives to his discovery. In Italy once, at a medical gathering, an unknown man in shirt-sleeves pushed himself and his three children forward to reach Fleming. "If these children are alive," He said, "they owe it to you." Then, pointing to Fleming, he told his children, "Never forget to ask God in your prayer to bless this man."

But Fleming protested that such gratitude was not due to him. "Everywhere I go people thank me for saving their lives," he said, "I don't know why they do it. I didn't do anything; Nature makes penicillin. I just found it." It was not just modesty that made him say this. It was a restatement of his belief in the healing power of Nature. He protested vigorously against the idea that penicillin was a man-made invention. "I have been accused of inventing penicillin, but no man could have done that. Nature, in the form of a lowly vegetable, has been making it for thousands of years. I only discovered it." And always he insisted that he discovered it by chance.

"Happy is he who already belonged to history in his own life-time," said Lord Moran, referring to Fleming, but Fleming was not happy in the limelight. "I am a simple bacteriologist," he said; and as soon as he could slip away he went back to his laboratory at St. Mary's and got back to work.

The Americans visited the laboratory and were amazed. One said it was "like the backroom of an old-fashioned drugstore." He found it hard to believe that penicillin could have been discovered there. Fleming laughed, and in Detroit, where he was shown over the last word in research laboratories—a gleaming, dustless, air-conditioned, sterilized sanctum—he shocked his hosts by saying, "Wonderful, but penicillin could never have been discovered in a lab like this." When they saw the point they could not deny it. Their culture plates were never contaminated, for the air was too pure: there was no way in for spores of a common mould.

Fleming's achievement was not only the discovery of penicillin. As the Surgeon-General of the United States Forces said, "Fleming, like Pasteur, has opened up a whole new world of science." He founded the antibiotic—that is, growth-inhibiting treatment of disease. He provoked others to seek new antibiotics, and all research-workers to be on the look-out for them, particularly in moulds and fungi; and out of these researches, which but for Fleming would not have been started, came new drugs, made by Nature and at last discovered by man, of which the best known at present is streptomycin. Fleming himself regarded this as the most important result of his work. Even before penicillin was in general use, he said, "The greatest benefit penicillin has conferred is not to the drug itself but the fact that its discovery has stimulated new research to find something better."

Sir Alexander Fleming died in 1955 at the age of seventy-three. His work will never die.

NOTES

Words Explained:-

revolutionize:	make complete change in something.
theory:	reasoned view of what may be the cause of relation between facts or events.
peer:	in British society, a man of high inherited rank (duke, earl, baron. etc.).
infection:	giving of disease through atmosphere or water.
sterilize:	make free from living bacteria.
abandon:	give up.
reveal:	give knowledge.
armour:	metal cover for body.
hosts:	great number of.
invade:	go into a country or body to make attack.
polytechnic:	school teaching a number of different trades.
oculist:	eye expert.
optician:	maker or trader in optical instruments.
profession:	way of making living specially in law, army, medicine and teaching.

legacy:	money etc.? given by owner at his death.
prospects:	expectations, hopes.
research:	work done with a view to discovering of new facts.
vaccine:	poison produced in body by the disease of cows like smallpox.
therapy:	medical treatment.
tremendous:	very great.
explosives:	substances with tendency to go off with great noise.
exception:	thing that does not follow the rule.
middle ages:	about the years 1000–1400.
tackle:	grapple with.
multiply:	increase rapidly.
modesty:	not over-valuing oneself, not putting oneself forward.
catarrh:	diseased condition of throat or back of nose as in cold.
forerunner:	one coming before another in history, making the way ready for.
colonies:	groups of animals living together.
mould:	wool-like growth of fungi formed on wet things.
spore:	living unit by which plant without flower is produced.
larder:	store-room, cupboard for food.
preserves:	substances kept from going bad, specially food.
broth:	thin meat soup.
crude:	substances in natural condition, unworked.

concentrate:	increase strength of liquids by reducing volume.
regret:	sad feelings caused by having done or not done something.
lack:	not have enough of, be without.
hail:	salute or greet.
protest:	make statement pointing out what is wrong.
limelight:	very bright light; in the limelight; getting public attention.
last word:	the latest or best example, the best view about.
air-conditioned:	room or the building having the air in it brought to a standard temperature.
sanctum:	holy place, a person's private room or study.
contaminate:	make unclean or diseased.
provoke:	make angry.
stimulate:	rouse to activity or excite to action.

ANSWER THESE QUESTIONS

1. What are antiseptics and what is the antiseptic method?
2. What was the chief defect of antiseptic method?
3. What part is played by the white cells in the blood of a human body?
4. Give an account of the early life of Fleming.
5. Describe how Fleming discovered penicillin.
6. In what respect is penicillin better than the chemical antiseptics?
7. What do you know of the Oxford team?
8. How did they make penicillin more effective?

9. Write a note on penicillin as a wonder drug.
10. Was Fleming proud of his discovery?
11. Why couldn't penicillin have been discovered in the research laboratories of America.
12. Fleming's achievement paved the way for other discoveries in the medical field. What are they?

LOUIS PASTEUR

Margaret Avery

Pasteur was born in quite humble circumstances, at Dole in the Jura district of France in 1822. His father as a young man had been one of Napoleon's conscripts and had won the Cross of the Legion of Honour on the field of battle, for valour and fidelity. Thus the son was fortunate in possessing forbears of character and strength. There is much evidence of the influence of the father on the son, Pasteur showing time after time the strength of his devotion to France. He was perhaps even more of a patriot than of a scientist, e.g., in 1848, when Europe was politically upheaved, Pasteur enrolled himself in the National Guard and seeing one day in the Place due Pantheon, a sort of altar labelled "autel de la patrie" promptly placed on it all his worldly wealth–150 francs. Again, in 1870 he was returning from Germany to France, and at Strasburg, heard that France was on the verge of war with Germany whereupon he hurried to Paris and was exceedingly disappointed when the military authorities refused to enrol him in the National Guard–on the score that a half-paralysed man was useless in the army. (He had a paralytic stroke two years before, in 1868, and never shook off the physical effects, though after two years he was able to continue his mental work as well as ever before.)

However, to return to his boyhood–when he was two years old the family moved from Dole to Arbois, where his father bought a small tannery, and here Pasteur was sent to school at the Communal College where at first he showed no interest whatever in books or study but devoted his attention to fishing and making sketches of his companions. However directly he grasped the fact that his education was a great drain on the family funds, he set himself in earnest at school and soon developed the passion for work which marked the whole of the rest of his life.

The College at Arbois did not teach philosophy and so, after a time, Pasteur went on to Besancon, a bigger place, with better educational provision. Here he graduated in Science and Arts and was given a post on the College Staff.

He was already much interested in Chemistry—too much so for the professor of that subject at Besancon, whom Pasteur used to embarrass with unanswerable questions. The Professor in question disapproved of saying "I don't know"—and used to try to keep Pasteur "in his place" by telling him that questions were to be asked by the Teacher of the Scholar, and not vice versa.

In 1842, i.e., when he was twenty, he went in for the entrance examination to the great Ecole Normale in Paris and came out fourteenth on the list, whereupon he refused to enter, being so disappointed at not getting a higher place. He took the examination again in the following year and was fourth on the list, which apparently more or less satisfied him.

At this point one may say a word about his private affairs. In 1848, at the age of twenty-six he became Deputy-Professor of Chemistry in the University of Strasburg, and here he met his future wife, who was the daughter of the Rector of the Strasburg Academy. They were married in 1850, and it seems that Pasteur was so buried in his work on the wedding day that he entirely forgot the ceremony and had to be fetched by a friend. The marriage, however, was extremely happy, and the wife seems to have been an important factor in her husband's work.

In 1860, the French Academy offered a prize for the solution of the problem whether spontaneous generation was or was not a fact, and Pasteur entered for the competition, and settled the matter once and for all in the negative, proving that if a substance be sufficiently heated to destroy all life and if the air in contact with it be filtered, so that it is free of germs, then the substance does not alter, i.e., bacteria do not develop in it. As usual, his opponents said they had obtained opposite results, so Pasteur asked for arbitration, and the Academy appointed a Commission, before which Pasteur and his adversaries were to repeat their experiments. On the appointment day, Pasteur appeared loaded with apparatus. His opponents, however, had none; they said the weather was unfavourable and they would like to wait. The Commission very reasonably refused; Pasteur did his experiment successfully and won the prize. In the course of these experiments Pasteur found that some germs are very difficult to destroy by heat; e.g., milk developed bacteria even after several minutes' boiling, but after raising the temperature 10°C above boiling point, he found that no bacteria were left alive. This work on spontaneous generation was of great value because it stimulated other scientists to study the habits of germs, and much of our modern knowledge of these invisible but very active plants sprang from Pasteur's discoveries.

This brings us on to 1870, when France and Germany were plunged into war, and Pasteur ever intensely a lover of France, was filled with sorrow and anxiety, and with loathing of Germany, he wrote to the University of Bonn, which had bestowed on him the degree of Doctor of Medicine, asking that his name should be removed from the Faculty of the University, and returning his diploma, of which he speaks thus:-

> "Today the sight of this parchment is odious to me, and I feel offended at seeing my name ..... placed under the patronage of a name doomed henceforward to exec-

ration by my country, that of Rex Guilelmus . . . ."

Having offered himself as a soldier where now he was refused on the score of physical incapacity, this unconquerable man turned to the sword of Science and took up the study of brewing, in order to discover a method whereby France might produce beer as good as that manufactured in Germany. He imparted his discoveries to the English brewers as well as to the French, with the rather illuminating remark, "We must make some friends for our beloved France." In 1876 this work was published in a book called "Etudes sur la Biere," which has been translated into English and is the best known of Pasteur's books in England, where it has been of tremendous value in the brewing industry. Huxley once said that Pasteur's work on fermentation alone saved France more than enough to pay the indemnity of the Franco-German War.

However, Pasteur's work on fermentation did not stop short here; it had far more important effects on medicine, surgery, and public health, for it was the staring-point for Lord Lister's work on inflammation of wounds, which in those days caused endless trouble after operations, often making amputation necessary, and frequently even this was not enough to save the patient's life. About 33% of deaths from major operations occurred in pre-Listerian days, with the result that surgeons were unwilling to operate except as a last and desperate resort.

Now Pasteur's discovery that fermentation was due to bacteria set Lister wondering whether inflammation was not also a type of fermentation due to bacteria getting into the wound. And as the result of a series of brilliant researches he proved that this was so, and that, if only germs were excluded from wounds, inflammation was averted.

The antiseptic method in surgery has led on to the aseptic method of today, where the ideal is to keep the patient's skin free from germs, so that the living tissues need not be soaked in carbolic, which tends to destroy the tissue as well as the germ. Hence though the instruments and the doctor's hands and everything else are rigorously disinfected, the wound is not thus treated, unless it be an old wound, already infected. The enormous value of this work is shown by the fact that the death-rate today in major operations has fallen to about 1%.

To return to Pasteur—the achievement by which he is best known to the man in the street, viz., his work on disease, was led up to by an investigation into which he was almost forced by the French Government. This was the result of a mysterious epidemic of silkworm diseases which for fifteen or sixteen years had been devastating the silk-industry in the South of France. Now, the keeping of silkworms was one of the chief home-industries of the peasantry of that part of France. Practically every family set aside the best room in the house for the rearing and tending of silkworms: the women got up even during the night to supply the worms with fresh mulberry leaves and to see that the temperature of the room was just right; and in that region the common greeting on meeting a friend is said to be not "How do you do?" but "How are your silkworms doing?"

Until 1849 the industry had flourished consistently, but in 1849 the moths were attacked by disease. It was thought at first that the eggs were at fault, and fresh ones were brought from other countries and for one season, this cured the disease; but it reappeared in the first generation of descendants of these imported worms, and so the inhabitants were driven to import fresh eggs each year. Soon, however, the disease spread to neighbouring countries, until Japan was the only silk-producing country free from the disease. This reduced the silkgrowers to despair, thousands of families were faced with ruin, and things were so serious that in 1865 the Government asked Pasteur to investigate the disease. At first he refused, on the ground that he was a chemist and not a naturalist and had never touched a silkworm in his life, but he pleaded ignorance in vain. "So much the better," replied M. Dumas, who bore the message from the Government, "you will only have the ideas which come to you from your own observation." This coupled with his sympathy for the people of the devastated region, overcame his reluctance, and he set out for Alais, a town in the silk district.

Now earlier observers had noted microscopic grains or "corpuscles" in the bodies of the diseased worms, but nobody had succeeded in finding a remedy, until Pasteur suggested collecting the eggs, laid by each moth separately and only keeping those derived from healthy parents. The only way in which this could be done was by use of the microscope, and Pasteur realised that this instrument would be a strange and terrifying thing to the peasants, so he tried to reassure them by telling them that his little girl of eight years old was quite at home with it. In addition, he directed the silkworm bearers' attention to the need of avoiding over-crowding, uncleanliness, over-heating, and unhealthy conditions generally, since these weakened the insects made them more liable to the disease.

This treatment, though it was not at once adopted, was very successful in decreasing the epidemic. It has been estimated that before Pasteur came to the rescue, France had lost forty million francs through silkworm disease. An even more important result of this work was that it led Pasteur on to study the infectious diseases of the higher animals, including Man.

It was during his work on the silkworm that Pasteur suffered from a stroke, the physical effects of which he never shook off. It has been attributed to overwork on the silk-problem. Providentially, however, his mind was not injured, and in 1877, at the age of fifty-five he began to study the cattle-disease named Anthrax. It had already been suggested that this was due to a germ, and Pasteur finally proved the truth of this theory and, further worked out preventive treatment. He cultivated the anthrax bacillus in such a way that it became only mildly poisonous and proved that these weakened germs introduced into an animal's blood gave rise to only slight symptoms of anthrax and protected the animal from taking the deadly form, much in the same way as vaccination prevents smallpox. This protective treatment has safeguarded millions of sheep and cattle from the disease. Reports from France and Hungary show that on many farms the death-rate from anthrax has fallen from 10% to 1% amongst sheep and from 5% to less than 1% among cattle.

And this brings us to the next stage of Pasteur's work—that on human diseases. Overcoming his dislike of seeing suffering, he visited hospitals, collecting infectious matter from patients, examining it microscopically and identifying the germs associated with various diseases, e.g., at the time the Maternity Hospitals were devastated by puerperal fever in every country, and an appalling number of women died from the disease. Pasteur discovered its germ, and an interesting little episode is recorded by M. Roux in connection with the discovery. "One day, at a discussion on puerperal fever which was taking place at the Academy of Medicine, while one of the most distinguished authorities was eloquently descanting on the causes of epidemics of this disease at Maternity Hospitals, he was suddenly interrupted by Pasteur as follows:—'It is nothing of all that which causes the epidemic; it is the doctor and his belongings which carry the germs from diseased to the healthy woman.' And when the speaker replied (with the superiority which we can all imagine) that he was afraid they would never discover that microbe, Pasteur rushed to the black-board and drew the germ, saying, "Stop, here is its picture." Nowadays, thanks to Pasteur and Lister, epidemics of this disease in Maternity Hospitals are unknown.

We now come to how he discovered the method of making vaccines, i.e., weakened germs, which can be inoculated in measured quantities into human beings as a cure or preventive of the disease caused by the ordinary unweakened germ.

He had gone away from his laboratory for a holiday, in 1879, whilst working at fowl-cholera, and on his return found all his cultivations of the germs dead or dying. He proceeded to inoculate various birds with those dead or dying germs and found that the birds showed signs of illness but recovered. The idea then occurred to him of inoculating them with a fresh lot of virulent germs of chicken-cholera, and he was amazed at the result, viz., that the birds still resisted the disease, though others, which had not been previously dosed with the exhausted germs died. So he arrived at the method of attenuating germs, i.e., of cultivating them so that they were weakened, and also at the fact that such germs inoculated into a healthy animal produced a mild type of illness which protected the animal from attack by the virulent form of the disease.

The first human disease to which Pasteur applied inoculation was Hydrophobia or Rabies, the horrible illness produced by the bite of a "Mad" dog. To give one some idea of its horrors, one need only read such descriptions as the following, of a child of five, admitted to a French Hospital. "The unfortunate little patient presented all the characteristics of hydrophobia: spasms, restlessness, shudders at the least breath of air, an ardent thirst, accompanied with an absolute impossibility of swallowing, convulsive movements, fits of furious rage. The child died after twenty-four hours of horrible suffering suffocated by the mucus which filled the mouth." As a matter of fact, its germ has never been found, but it was known that the part of the body affected in hydrophobia was the nervous tissue, and Pasteur tried taking some of the nervous tissue of an animal which had died of the disease and attenuating it, which he found could be done by exposing the spinal cord of rabid rabbits to dry air, which weakened it until after fourteen days it was harmless. The attenuated spinal cord introduced into dogs rendered them immune to hydrophobia, but the treatment was not tried on human beings till 1885, when a boy, Joseph Meister, was brought to Paris for treatment from a little place in Alsace.

He had been bitten by a mad dog two days before. Now, human beings do not as a rule develop hydrophobia for a month or so after being bitten, and Pasteur, being as usual extremely anxious to ward off suffering, undertook the treatment of the boy by inoculations, which were continued for ten days. Meanwhile the boy was hardly ill at all and played about the laboratory very happily, though Pasteur was devoured by fears and anxiety about the results. However, the boy was absolutely cured, and two months later a shepherd, who had been bitten by a mad dog, was similarly cured, and three months later three hundred and fifty cases had been treated, with only one death. By 1899, more than twenty-three thousand people had undergone the treatment, and the number today must be larger still. The deaths amongst these were less than ½%, and there is no doubt that many of the rest were saved from a terrible death by Pasteur's work.

But though this was the last of Pasteur's great discoveries, its results were by no means confined to the cure of hydrophobia, for the fame of his success stirred up other scientists to try similar methods of cure for other diseases, and in the ten years between 1880 and 1890 they discovered the germs of consumption, diphtheria, typhoid, lock-jaw, cholera, and Malta fever.

In 1893 the antitoxin which cures diphtheria was discovered, and also the protective treatment for cholera. Before the discovery of the antitoxin 30.4% of diphtheria patients died; now 8.3% die. In 1894–95 the germs of plague and of the tsetse-fly disease in animals were found. In 1896–97 the protective inoculation treatments for typhoid and plague were discovered with the result that in Great War there was extraordinarily little typhoid in our Army compared with the amount of the disease which had occurred in earlier campaigns, such as the Boer War. In India during 1913, 93% of the British garrison were inoculated, and deaths from typhoid fell from usual 300–600 to only 20.

In 1898–1900 it was proved that malaria and yellow fever were conveyed by mosquitoes. Now malaria each year kills millions of men and weakens millions more. It was rampant in England, under the name of ague till comparatively recently, it was banished by draining the malarial districts. Now that we know the cause of the disease we can fight it in two ways by destroying the breeding-places of the mosquito and by protecting man from the bite of the mosquito. Thus, every puddle of standing water, every pond, etc., should be drained or oiled, and all cisterns and wells should be kept closed in a malarial district, for the mosquito lays its eggs in water. Windows and doors must have wire-gauze shutters. Beds must be protected by mosquito nets. Finally, quinine is invaluable as a preventative and cure. It was this knowledge that enabled the Americans to construct the Panama Canal, after the French had failed hopelessly with enormous loss of life and money owing to the ravages of malaria and yellow fever.

In 1903–5 Bruce showed that sleeping-sickness, which devastates Central Africa, was conveyed by a species of tsetse-fly. In 1905 in Uganda it caused 8,003 deaths. In 1910 the number was reduced to 1,546.

It is impossible even to catalogue the list of the medical discoveries which have sprung from Pasteur's work and especially since the Great World War, which forced us to deal with many hitherto little-known diseases and conditions and so to greatly increase our knowledge of them. For example, at the beginning of the War tetanus (lock-jaw) was tremendously common amongst our wounded because the soil of Belgium and Northern France is full of the germs of the disease: hence arose the custom of giving every wounded man a dose of antitetanus serum, which reduced the number of cases of tetanus to a tiny proportion.

As an expression of world gratitude, the Pasteur Institute was built in Paris with subscriptions which came from all parts of the world. It was opened in 1888, and was the joy of Pasteur's few remaining years.

It had been well said that Pasteur "brought the facts of disease and death from the realm of the supernatural and miraculous into the realm of the natural. Disease and death were the great mysteries, where the occult held sway. The malign and mysterious influence of the moon caused lunacy: there was the evil eye with its morbific powers; in fever and in epilepsy the body was possessed by demons; tuberculosis was the King's Evil, to be cured by the "Sovereign touch." Far more than all other men, Pasteur abolished for ever these superstitions."

Pasteur died in 1895, at the age of seventy-three, and was buried in the Institute.

NOTES

Words Explained:-

conscript:	man taken into military forces by law.
valour:	bravery.
fidelity:	loyalty, being true to.
forbears:	persons earlier in family line, ancestors.
altar:	structure on which offerings are made to higher powers.
upheave:	put in difficulty
verge of war:	near war.
on the score:	because of.
paralytic:	one having paralysis, loss of feeling or power of motion caused by damage to nerves.
sketching:	quickly done picture.
directly:	straightaway.

keep him in his place:	check him, snub him.
vice versa:	the other way round.
by path:	studies not in his own line, but near it.
spontaneous generation:	production of living from nonliving matter as inferred from appearance of life; due in fact to bacteria in some infusions.
adversary:	person acting against one.
execration:	curses.
iflammation of wounds:	swelling, pain and redness.
amputation:	cutting off part of body.
last resort:	last step or measure or thing to be done.
avert:	keep off danger.
rigorously:	keeping narrowly to rules, here most carefully.
man in the street:	ordinary man.
flourish:	thrive, prosper.
import:	take in goods etc., from another country.
at home with it:	knows how to use it.
liable :	tendency to catch the disease.
epidemic :	disease generally among a group at a time.
rescue:	get person out of danger.
appalling:	causing fear or shock.
episode:	event, occurrence.
authorities:	experts.
maternity hospital:	hospital for women during confinement.

exhausted:	weakened.
spasms :	sudden violent attack of pain.
ardent thirst :	burning thirst.
suffocate :	trouble in breathing, put to death by stopping breathing.
mucus :	thick liquid produced inside nose or mouth.
devoured by fear:	subject to great fear.
conveyed by mosquitoes:	carried by mosquitoes.
rampant:	raging, spreading quickly.
puddle:	small hollow full of dirty water.
ravages:	destructive effects of.
mystery:	events or acts the cause of which is not known.
occult:	those who have secret knowledge.
supernatural:	due to some agency above the forces of nature; miraculous events looked on as caused by other than natural powers.
malign:	bad.
lunacy:	madness.
morbific:	causing disease.
King's Evil. . . sovereign touch:	scrofula. The belief that it could be cured by king's touch.

ANSWER THESE QUESTIONS

1. Describe the early life of Pasteur.
2. Give some instances of Pasteur's patriotism.
3. What do we mean by spontaneous generation?
4. How did Pasteur prove that spontaneous generation was not a fact?

5. Describe the importance and popularity of the silkworm industry in France. What help did Pasteur render in curing the silkworm disease in his country?
6. How did Pasteur discover the treatment for the cattle disease, Anthrax?
7. How did Pasteur discover the method of making vaccines?
8. Give an account of Pasteur's treatment of Hydrophobia and how he cured the first patient suffering from it.
9. How did Pasteur show the way to other scientists? Give an account of the discoveries.

MUSTAFA KAMAL

Wilfrid F. Castle

The war was over. Throughout the entire Near and Middle East the armies of the democracies had been hailed not so much as conquerors, but as deliverers. The Turks themselves were only too glad to be able to lay down arms after almost continuous fighting since 1911. A government formed from the old Liberals was in power in Istanbul, its members and the Padishah himself alike eager to collaborate with the Allies, their conception of the best interests of the nation was that of loyalty to the Armistice and co-operation with the occupying forces of the conquerers. At Istanbul the old British Embassy was now the British High Commission, supported by military and naval detachments. Allied officers were supervising the police and the ports and the normal machinery of the government was practically superseded by orders and suggestions from the Allies.

At this time far away in Eastern Anatolia, one Kiyazim Karabekar with some undefeated remnants of the Ottoman Army, began to obstruct the Allied control officers, refusing to disband his men. Week by week little encounters increased; it was apparent that the Turks were steadily growing bolder. Even in the streets of Anatolia towns their bearing changed. This caused consternation not only among the Allies but in Istanbul itself. Some one must go as the representative of the Padishah and deal with the situation on the spot—a strong capable soldier was wanted. Every indication seemed to point to one man as being suitable for the work, and Mustafa

Kamal was the man. At first the British High Commissioner demurred, but his objections were for once overruled, and Mustafa Kamal sailed on the 15th of May, 1919, for the north-east coast of Anatolia as Governor-General of the Eastern Provinces. Scarcely had the small steamer bearing Mustafa Kamal entered the Black Sea than the authorities of Istanbul became suspicious of his intentions and issued orders for the ship to be intercepted. But it was too late.

The very same day it became clear beyond all doubt that the Allies had condemned the Ottoman Empire to be partitioned to the very walls of Istanbul. On the 15th of May, the Admiral of the British Mediterranean Fleet informed the Ottoman governor of Izmir that this great seaport and the rich province of Aydin were to be occupied by the Greeks. The Ottoman troops were hurriedly withdrawn into barracks and the Greek Metropolitan raised the Cross as the first Greek soldiers disembarked.

To all Turkish patriots these events meant that there was only one policy to be pursued. Even those most friendly to the Allies were infuriated by this foreign occupation of the richest and most essentially Turkish of their provinces. Turkish patriotism was no longer vague and undecided; it was a flame burning in the hearts of men and women of all classes—a flame of indignation not of hatred. Even during cruel wars the Turks and the Greeks never hated each other, and among the, Greeks there was little enthusiasm for the Anatolian adventure. A magnificent Greek Royalist officer—Ioanne Metacas—protested strongly to his Government, but the invasion continued.

In a heavy storm Mustafa Kamal's small ship staggered towards the landing stage at Samsun on the coast of Anatolia. At Amisa he met Ali Faut, the commander of a small army corps centred on Ankara, and at a secret meeting of the patriots he sketched out his plan of resistance. First of all, guerilla bands must hold up the Greeks, and covered by these irregulars the patriots must build up the National army, but without any help from Mehmet IV or any one at Istanbul. "As the Sultan and the Central Government are in enemy hands we must set up some temporary government in Anatolia," he continued, "A congress of delegates to represent the real, free Turkey should be called as quickly as possible." Meanwhile Mustafa Kamal set out to tour the villages, preaching resistance and in every place appointing representatives to form centres of patriotic revolt. Yet even the energy and personality of Mustafa Kamal would not have been so effective had not news arrived that the Greeks were advancing. Everywhere the local Turks vowed that death was preferable to rule by Greeks. Moreover, the Allies who had made these plans were far away while near at hand was an undisbanded Turkish army corps at Diyarbekir. Men came crowding back to the ranks with guns and ammunition raided from the Allied arms dumps.

As soon as Mehmet heard of these activities he ordered Mustafa Kamal to return. The patriot's reply was a long personal telegram to the Padishah urging him, as leader of his people, to come over to Anatolia and himself take the lead against the Greeks and all the foreign enemies—it would be Mehmet's last chance to save himself, the Throne of his fore-fathers and the Turkish nation. But Mehmet's conception of the best interests of Turkey was co-operation with the powerful conquerors. In these circumstances the only imaginable reply to Mustafa Kamal's invitation was a peremptory command : the rebel must report himself immediately to Istanbul. Back along the wire went the most momentous telegram in the history of the Ottoman Empire :

> I shall stay in Anatolia until the nation has won its Independence.

Mehmet IV could see no other way to regain the provinces of Anatolia for the throne than by subtlety. With a sudden movement he unexpectedly proclaimed himself willing to summon a government pleasing to the Nationalists. The delegates in Anatolia could transfer their activities to Istanbul, put Mústafa Kamal's ideas into practice and yet no longer stand in opposition to the Padishah, the Shadow of God. The patriots, who could scarcely imagine their state without a Sultan as its head sooner or later, grasped at these promises—almost all but Mustafa Kamal himself who fought hard for a parliament in Anatolia. He suggested that it should sit in the upland town of Ankara, where it would be centrally situated, well protected, free, absolutely independent of the Allies in a thoroughly Turkish town associated with the history of the Turks and their forefathers. But for once he was defeated and Mustafa Kamal was left almost alone when on the 19th of January, 1920, the National Assembly assembled in the "City of the Sultan" and began the hopeless task of trying to work up resistance under the very eyes – and guns – of the Allies.

While the delegates were wasting their time on the Bosphorus, Mustafa Kamal was making exceptionally good use of the freedom which the absence of the talkers had given him. For the next few weeks Allied agents were kept busy reporting large armed formations seen in the interior: regular troops of the old Imperial army, armed peasants, women transporting ammunitions and supplies as Turkish women had done in the days before Islam. The position was becoming really serious for the Allied Army of Occupation stationed here and there near the coast. In her diary, an American medical practitioner chronicled the daily deterioration of the position in Anatolia:

"The firing gets worse steadily . . . a general massacre of the Armenians is expected . . . All night long the skies are red-lighted in every direction by the raging fires, and the canons roar and the heavens shake . . . The whole city is overhung with clouds of smoke. The Turks are bolder all the time. Surely this is because they realise that this is the end for them, and are desperate."

Every day brought fresh men and new equipment. The Allies began to withdraw their troops from the interior. They evacuated the important Baghdad Railway junction at Estishehir, where immediately the patriots transformed the railways depots into ammunition factories. The Allies replied by putting Istanbul under a collective arrest and dissolving "the National Assembly." Leading Patriots hid or escaped into Anatolia, where they made straight for Ankara to join Mustafa Kamal. There on the 23rd of April, 1920 the revolutionary Turkish Grand National Assembly met with Mustafa Kamal as President. Its first act was to make clear to the world the position of the new Turkish Government. The courage of its words is astonishing.

"The Grand National Assembly sitting in Ankara will preside over the destiny of Turkey as long as the capital is in the hands of the foreigners. It has appointed an Executive Council, which has taken in hand the government of the country. Istanbul, the Sultan, and the Government being in the hands of the enemy, all orders from there are automatically null and void. The nation's rights have been violated. The Turkish nation, though calm, is determined to maintain its rights as a sovereign independent state."

At last as the month of May, 1920 was drawing to its close the Allies published the terms of peace which they were willing to make with Mehmet IV. A small and helpless Ottoman Empire was to be entirely under the supervision of the Allied powers; all the Arab provinces were to become Mandated Territories; the whole of Eastern Anatolia was to be added to the state of Armenia; around Izmir was to be a large Greek district; Cicilia was to go to the French; the Ottoman capital itself was to be an international centre under the control of Britain, France and Italy. Only the immediate hinterland of Istanbul was to remain of the once extensive "Turkey in Europe."

The terms if widely accepted would have been the death sentence not only of the Ottoman Empire but of what was now correctly described as Turkey. By entertaining the very idea of signing a treaty based on such terms, the Ottoman Government at Istanbul was branded by the patriots as a puppet government of traitors and dotards, and almost the entire Turkish nation accepted the Turkish government at Ankara.

There was no one to enforce the terms of the treaty, in the event of Mehmet signing it. On the 21st August, 1921, the Greeks attacked. In the mountain country above the Sakarya river, some fifty kilo-metres west of Ankara the two valiant people fought almost man to man for fourteen days under the burning heat of the sun, the Greeks attacking with reckless abandon, the Turks hanging grimly on the heights, Mustafa Kamal now their Commander-in-Chief. By the 4th of September the critical moment had come: the Greeks were at the end of their strength. On the 12th they crossed the Sakarya and began to retire steadily, but there was no question of the Turks immediately following up their advantage. It was not till the end of August, 1922 that Mustafa Kamal was able to sound his famous battle-call: "Soldiers: Your goal is the Mediterranean. Forward."

Six days later the advance guard of Turkish National forces drew within sight of the Mediterranean. There lay Izmir crowded, and overflowing with refugees. There were ships for the Greek soldiers but none for the Greek and Armenian population, crazed with fear. In the harbour towered the Allied battleships, powerless to do anything except to take away as many refugees on board as possible. The Greeks alone were at war with the "rebel" Turks.

A long line of decorated cars entered Izmir on the 9th of September, 1922, on the either side an escort of cavalry. In the leading car was Mustafa Kamal, Commander-in-Chief of the Free-Turkish Forces and "Saviour of Turkey." Three days after the change of government, fire broke out in several parts of the city at once and the greater part of Izmir was reduced to ashes.

Mustafa Kamal now realised that he must at last persuade the Ankara Government to make an end of the puppet show in the old capital. He proposed that the Sultanate should be abolished. The Grand Turkish National Assembly gave the verdict:

> "By the Unanimous Vote of the Grand National Assembly of Turkey, the Sultanate is abolished."

On the 4th of November, 1922, Riffat carried out a coup d'etat at Istanbul. On the following day the Ottoman cabinet resigned office and was not replaced.

For a few days Mehmet stood his ground—the ruler of a palace and a private park. He felt he could trust no one but an old conductor of the royal orchestra, whom at last he sent to Sir Charles Harrington to crave British protection for "the Emperor of powerful Emperors, Refuge of Sovereigns, Distributor of Crowns to the Kings of the Earth, Master of Europe, Asia and Africa, High King of the Two Seas . . . "

It was the 17th of November, 1922. A British motor ambulance drew up at a side-door of the palace where Mehmet was staying. Some baggage was brought out of the palace and placed in the car. An elderly man followed. A British Officer took the old gentleman's umbrella as he entered the vehicle. The door was closed and the ambulance drove away. The last of the Sultans was on his way to exile. A greater Sovereign than all the Ottoman Sultans was now in the seat of power at Ankara—the will of the Turkish people expressed through a leader who was at one and the same time both dictator and democrat.

It was the end of an age. On the 29th October, 1923, the name of the Ottoman Empire was wiped from the slate of history. A salute of a hundred and one guns proclaimed the foundation of the Turkish Republic with Mustafa Kamal as the President and General Ismat Inonu as the Prime Minister.

The Great Reformer

On assuming power, Mustafa Kamal's first object was to educate the people. This was a gigantic task, for state education was unknown in Turkey. Therefore there were two problems: to teach the masses and to train as many teachers as possible.

As he was determined to break down this barrier, Mustafa Kamal declared the old script to be abolished and replaced by the Roman script. Thereupon he set out on a series of tours round the country to demonstrate, chalk in hand, how the new script should be used. The whole population went back to school. Nor was Mustafa Kamal a lenient master. He tested people on the most unexpected occasions, naming a day, not far ahead, by which everyone was to have learned the new script.

Once he had simplified the Turkish script, Mustafa Kamal started upon a rather more difficult task—that of simplifying the language. This was urgently necessary for two reasons: first, because educated speech under the Ottoman Empire had been a mixture of Turkish, Arabic and Persian; and second, because he realised that the elaborate modes of address and flowery phrases were out of place in the modern world. Accordingly he set up a committee for the purification of the language by substituting genuine Turkish words for those of Arabic and Persian origin.

In the new world created by him there was no need for the old titles and nobilities which meant nothing to the new nobility of effort. The word "Pasha" was abolished: every man became Bay hitherto a title of some honour; women became Bayan.

No less revolutionary was the abolition in 1925 of the national head-dress, called the Fez. The Fez was in origin Greek, but it had come to be associated closely with Turkish life. When the wearing of hats was made compulsory there were barely enough to go round, so that the houses of the foreigners were ransacked and men even went about in Paris models. It was reported from Izmir that in a village near by, the peasants unable to obtain bowlers, or caps, discovered in the closed shop of a departed Armenian haberdasher a stock of ladies' summer hats, and seizing the entire selection, wore them, ribbons, feathers and all.

Finally, to complete this account of Kamal's reforms, we must mention that which was most striking, namely the abolition of the veil. As early as 1923 he had addressed the people of western Anatolia on the subject of women's rights. "Our nation has decided to be strong," he had said, "and our absolute need today is the higher education of women. They shall be instructed in every field of science and receive the same degrees as men." Mustafa Kamal prepared the country for the change by a tour of the towns and villages during which he addressed himself principally to the menfolk.

No less great was the economic advance. In 1919, there was only one railway in Turkey, and judged by modern standards no roads at all. Mustafa Kamal inaugurated great development and construction schemes both for railways and motor roads. In 1919, there were 150 factories in Turkey; in 1933, 2000, while the Turkish Five-Year Plan, inaugurated in 1934, encouraged heavy industry still further. The banking system was organised and the Ottoman public debt (taken over from the Sultanate by the new Republic) was reduced to one-tenth of its former size. All this was achieved without further borrowing.

The changes in all branches of Turkish life have been stupendous. It would be no exaggeration to say that at the time that Mustafa Kamal set to work, the mental and political development of the masses in Turkey was on a level with that of the people of Western Europe in the mid-eighteenth century. The Turks have now traversed in a few years the road which the people of Western Europe took 150 years to travel. The thorough democratization of the nation, and the awakening of the people and the unchaining of their powers has been the work of Mustafa Kamal.

NOTES

Words Explained:-

democracy:	nation with representative form of government. Government of the people, by the people, for the people.
collaborate:	do work with one another, cooperate.
armistice :	agreement in war to put a stop to fighting for a time.
supersede :	take, put another in the place of.
remnants :	small remaining quantity or piece.
obstruct:	get in the way of, oppose.
disband:	break up, disperse.
encounters:	meeting in conflict.
consternation:	great surprise, fear.
demur:	make a little protest.
overrule:	make decision of no effect by use of higher authority.
intercept:	get person stopped on his way.
infuriate:	make very angry.
vague:	uncertain, having no direction.
stagger:	move in an uncertain way.
dumps:	store of guns etc., near fighting-line.

peremptory:	orders given sharply and with decision.
subtlety:	cleverness.
deterioration:	becoming worse.
evacuate:	go away from a place, specially by military.
null and void:	of no effect.
mandate:	control given to another specially by the League of Nations over nations not ready for self-government.
hinterland;	inland part of a country.
brand:	give a bad name to.
dotards:	old men becoming weak-minded.
foolhardy:	everready for danger.
join issue with:	to take opposite view of a question.
reckless:	heedless of danger ahead.
crazed:	rendered insane.
gloaming:	evening twilight.
bobbing:	moving up and down.
purge:	purify.
puppet show:	persons whose acts are controlled by another.
abolish :	put an end to.
verdict:	decision.
unanimous:	all of the same opinion.
coup d' etat:	sudden move or act to get power by violent means.
stood his ground:	refused to yield, opposed firmly.
crave:	beg.
gigantic:	of very large size.
lenient:	kind, not hard.

elaborate:	worked out in great detail; complex in structure.
ransack:	search thoroughly.
haberdasher:	trader in small dress goods.
veil:	purdah.
tightly:	not giving room for motion; closely fastened or fitting.
inaugurated:	introduced, initiated.
stupendous:	amazing by size or degree.
unchaining:	setting free.

ANSWER THESE QUESTIONS

1. What was the attitude of the Turkish government towards the Allies after World War I?
2. Why was Mustafa Kamal sent to Anatolia?
3. What was the reaction of the Turkish patriots to the intention of the Allies to partition the Ottoman Empire?
4. Write a note on Mustafa Kamal's activities in Anatolia.
5. Why did Mehmet order Mustafa Kamal to return to Constantinople?
6. What was Mustafa Kamal's reply?
7. How did Mehmet try to regain Anatolia for himself?
8. Why did his plan fail?
9. What were the terms offered to Turkey by the Allies?
10. Give an account of the Greek attack and its defeat.
11. Give an account of the departure of Mehmet from Istanbul.
12. Describe the reforms introduced by Mustafa Kamal with reference to (1) the position of women, (2) removal of illiteracy, (3) change in dresses, (4) adoption of the roman script and (5) the industrial and economic

development.

13. Sum up in a few sentences the work of Mustafa Kamal as a great nation-builder.

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مرکزِ یقین، شاد باد
پاک سرزمین کا نظام قوتِ اخوتِ عوام
قوم، ملک، سلطنت پائندہ تابندہ باد
شاد باد منزلِ مراد
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